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PREFACE TO THE THIRD EDITION.

AFTER the First Edition of this book was published, the war of 1866 took place, marking the commencement of a new era in the operations of war. This was taken into account in revising the Second Edition. Since then we have seen another war, more momentous in its events and its results, and rendering clear much that was unsettled in the conduct of military operations. A thorough revision has, therefore, now been needful, and the reader who takes the trouble to compare this with either of the former editions will find that, though the plan of the work is unchanged, considerable portions have been recast and rewritten. Besides other alterations, the chapters on "the Campaign of Metz and Sedan," and "Changes in Contemporary Tactics," and the account of the Battle of Woerth, are new. In revising the book, the author has profited by his association, in his present duties, with military professors of conspicuous ability in their special departments of military art. He has had the advantage of discussing with Major Adams of the Staff College, and Major Jones of the Royal Military College, general questions of contemporary tactics; with Lieut.-Colonel Schaw details of artillery and the defence of positions; Lieut.-Colonel Farrell has given cordial and valuable aid in preparing new maps; and he is indebted to Major

Colley's investigations in Military Administration for the calculation of the rates of marching (p. 31), and for the example of the supply of the Second Prussian Army (pp. 37-40).

Acquaintance with the subjects of which this book treats is so much more common than formerly, that it will probably find many readers to whom the more elementary parts may be superfluous. Military education has received many impulses of late; the details of the late great wars have shown the vastly increased importance of professional knowledge; the means of instruction are constantly becoming more abundant; the public has displayed an unwonted interest in the army; and the establishment of higher standards of professional qualification, and the opportunities given of late for professional acquirement, have been concurrent with the general wish. The officer feels therefore an encouragement to study his profession unknown when his zeal brought him neither credit nor advancement; and the disreputable anomaly, once so common, of military men, sometimes of high rank, who decry knowledge of which they do not perceive the value, and take credit for their contempt of it, is becoming rarer every year. Our military literature is constantly receiving fresh and important contributions, which are extensively read and discussed; and we have just seen that the Essays called forth by the prize so thoughtfully given by the Duke of Wellington, for an object purely professional, have excited an interest which extends far beyond the army. Excellent studies, made during the late war by highly-competent observers, have appeared in our newspapers; and foreign military literature and, through it, our own, have been enriched by men who, after taking their part in the march and the battle, have drawn from their experience the most valuable deductions; such as Boguslawski, Prince Hohenlohe, Blume, and Verdy du Vernois, who, amongst others, are already introduced, by excellent translators, to English

readers; while the whole war has been chronicled, in the most instructive and strictly professional form, by the German staff.

But amid all the proofs of the unwonted attention which this generation bestows on military science, none is so remarkable as the growth in the midst of our modern civilisation, and assimilating that civilisation to itself, of a great School of War. It is true that in former epochs military colleges existed for instruction in special branches, and systems of drill for the training of troops. But the instruction imparted at Colleges was limited in scope and restricted to a few; the training of troops was for the most part of an absurdly unpractical kind; organisation was a series of makeshifts, and concessions to exigencies other than military; and administration depended for its results on the energy and capacity for business of the individual administrators. So long as all military Powers managed the affairs of their armies in this way, no need of change presented itself of necessity to any. But now we have seen, in Prussia, a nation devoted to the requirements of the army, and an army devoted to the requirements of war. In devising measures of recruitment and organisation, the interests of the military power are considered before the interests of the people. So far as can be done in peace, the combatant portion of the army is trained in the actual business of war. For that practical end, too, is trained, in a far higher degree, the Staff, from which the parts of the military machine are to receive their impulses, and whose occupation in peace is to prepare, in the minutest particulars, for the immediate action of the army, and every part of it, against any possible enemy, and in any possible theatre of war. In this system nothing is so novel as the abandonment of that principle, hitherto regarded as the mainspring of discipline, which made infallibility the attribute of the superior, and mechanical obedience the sole function of the inferior. Every one in his degree has

his intelligence cultivated, and is expected to use it, and an essentially new element of great force is thereby introduced into the military system. Thus there have arisen, and been matured, in Prussia, a system and a school of war; and while, in other armies, leaders and administrators could only develop in the field the ability which they had cultivated, and the knowledge which they had acquired, each in his own way, and no one could exactly say how, the Prussian army, independent of heaven-born generals or individual genius, has been, and will be, in the hands of men who, by long association in the rehearsal of military operations, and by interchange of their acquirements, are trained for administration and for command. Service under such arduous conditions is rendered attractive by the illusions which a great monarchy can create; a warlike king is the active head of the army, warlike princes are its leaders, and military rank is the highest kind of nobility. Such is the Prussian system seen from the professional point of view; but it must be admitted that it has its reverse. That the best intellect of a nation should be absorbed by the profession of arms, is a step backward from the civilisation of this time to an order of things out of which it has been the dream of sages and philanthropists to rescue mankind. But however this may be, it is evident that when one great nation devotes all its energies to preparation for war, others must conform. It must be said of such a Power, as Elspeth Cheyne said of Lady Glenallan, "We maun a' ride when she's in the saddle." Whether means may be found of attaining a military system of high efficiency, with sacrifices less costly, is a problem which it is of infinite interest to solve; in any case, the attainment of such a system can only be neglected under the possible penalty of such calamities as we have seen inflicted on the conquered.

E. B. H.

STAFF COLLEGE, *November* 1872.

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ERRATA.

Page 313, last line, *for* " 58,000 infantry," *read* " 50,000."
" 314, first line, *for* " 2400 cavalry," *read* " 1500."
" 314, fourth line, *for* " 415,000 infantry, 53,800 cavalry," *read* " 407,000 infantry, 52,900 cavalry."
" 317, line 4, *for* " Saarlouis," *read* " Treves."
" 317, " 7, *for* " Mayence," *read* " Mayence and Mannheim."
" 317, " 10, *for* "at Mannheim and Germersheim," *read* "from Mayence to Germersheim."
" 334, " 10 from bottom, *for* " 150,000," *read* " 140,000."

These corrections are from the German Official Account of the War, published since the pages referred to were printed.

THE

OPERATIONS OF WAR

EXPLAINED AND ILLUSTRATED.

PART I.

THE MODERN CONDITIONS OF WAR.

CHAPTER I.

INTRODUCTORY.

Military history essentially popular,

No kind of history so fascinates mankind as the history of wars. No kind of record, other than sacred, appeals at once to the deep sympathies of so wide an audience. Great social, political, or philosophical enterprises may produce more extensive results than can follow from the conflict of arms; but a certain amount of acquired knowledge is necessary in order to render them intelligible. The contests of philosophy, of art, or of statesmanship, demand from the spectators some of the power which is displayed by the disputants; but everybody can watch with interest the game of war, for all can feel how earnest is the struggle where individuals stake their lives and nations their territories. Brilliant exploits, deeds of valour and of self-devotion, frequently relieve the weightier course of the narrative; and all the surrounding incidents, the pomp and circumstance, the actual conflict, the changing scenery, even the horror

and devastation, are so picturesque, that the gravest historian must feel how much of the interest of his work will be centred in those pages which glow with the lurid light of war.

but read chiefly for its romantic interest.

Very numerous, then, are the readers, both military and civil, of military history. But many still read it as they read a romance. They read Napier when they are men as they used to read Plutarch when they were boys. They choose a side, drift with the course of the narrative, and accept the opinions of the historian. And formerly an officer who had read much in this way, and remembered it, passed for well-informed in his profession.

More scientific study demanded.

But this is no longer sufficient. The present generation has witnessed a succession of wars, vast in magnitude and in results. The inquiring spirit of the time has been impelled into military channels by the deep interest which the people have felt in contemporary conflicts. It is expected from those who now write about war, that they shall be something more than mere chroniclers; and newspaper writers and others who discuss campaigns still in progress, aim at giving us some of the philosophy of the business; while the student of military history feels that his reading can be profitable only in proportion to the means he may possess of judging of the events of the past, and deducing from them lessons for the future.

The difficulties it presents.

Any one who has set thus about the study of military history seriously and honestly, will probably admit that he found himself at once involved in great perplexity. The map shows the theatre of any series of great operations to be immense. Of that vast and various complication of roads and rivers, plains and mountains, is he to take all into account? or, if not, how much, and what can he venture to neglect? How reduce that seeming confusion to manageable limits? how deduce from it order and design? And in a general history of a certain epoch, such as that of Thiers, he finds that not only are events recorded, but opinions are freely given. But on what principles, he asks, are these opinions, generally dogmatic in expression, based? Why was a certain movement judicious, though unsuccessful? Why did a certain action of a certain leader show him to be a great commander? And, when historians differ, which is right?

Clearer prospects are opened to the student in military histories written

by experienced soldiers, such as the works of Napier, Jomini, and the Archduke Charles. He has here a detailed military narrative by aid of which he can follow on the map all the movements of all the troops throughout a series of campaigns; and so far he has tolerably firm footing. But he does not find the comments and scientific expositions of these historians by any means so easy to understand, for an amount of knowledge greater than he possesses seems always to be presupposed in the reader. These writers had made military science the subject of deep and protracted consideration, had formed theories about it for themselves, and they argue, perhaps unconsciously, on grounds which are, to the beginner, inaccessible. Here too, then, he is often at a loss, and feels that he must by thought and study increase his knowledge if he would thoroughly understand his author.

Anxious to acquire the requisite rudiments, the student betakes himself to elementary works. But (unless his experience is very uncommon) he will by no means find that they greatly diminish his difficulties. For their fault almost always is that they treat their subject in too abstract a form, and become obscure in attempting to be scientific. It is common, for instance, to find military treatises affecting a mathematical precision, commencing with definitions, and illustrated with diagrams, like propositions of Euclid. Now, most military terms are easy enough to understand; and they do not require to be defined formally, because the solution of military problems does not depend on the exactitude of the definitions. Thus the subject is at the very outset uselessly encumbered—worse than uselessly indeed, for the definitions are often much more difficult to understand than the original phrase, and are therefore confusing. Everybody knows, for instance, sufficiently well what is meant by the term "Theatre of War." Is anything gained, or rather is not something lost—namely, simplicity and clearness—in defining it (as it is defined in a modern English work on strategy) as "the whole area of ground which it is necessary to take into consideration at any time during a campaign, in order to construct correctly a strategical combination"? And when in this way plain terms are transmuted into elaborate definitions no use can be made of them. It is a method which, in exchange for a good shilling, gives you a pocketful of bad halfpence.

The fault of the diagrams is just the opposite of this. It is that they

affect too much to simplify what is in reality complicated. The student who is presented with a page of simple figures, squares, angles, or semi-circles with a few radii, and told that these are explanations of the art of war, is apt to ask if military problems can really be dealt with in this compendious fashion. He is told, perhaps, that when two strokes representing armies are placed in a certain way within two lines forming an angle, the one army has a great advantage over the other. But when he comes to apply this proposition to an actual campaign, which he follows on a map embracing extensive territories, covered with a network of roads, and diversified with innumerable accidents of ground, he finds (especially if the course of the campaign be not in unison with the principle laid down) that he is at least as much bewildered as aided by his diagram. Not that the diagram is necessarily untrue; it may state a fact (though it does not always), and the fact may be valuable; but the beginner wants the knowledge necessary to understand the fact in its very abstract form—for that form has only been attained by a process of evaporation, by knowing what matters are really superfluous, and may be left out of the complex problem which a military operation always presents. He must be already somewhat familiar with military records and military topography before he can perceive the application of the diagram, just as a deep knowledge of anatomy is necessary to him who would base a theory upon two or three bones of a skeleton. If, on the other hand, he is one of those facile disciples who accept implicitly whatever they find laid down by authority, it is evident that, in imagining he understands the art of war because he perceives the relations between sets of mathematical lines, he is in a fair way of becoming a pedant.

The earnest student is then in this dilemma, that he requires a knowledge of theory to understand the facts, and a knowledge of facts to understand the theory. The only mode of extrication would appear to be, to read military history until he can form theories for himself. But what a task is this for one to enter on who does not yet know what it is that he wants to know! When the works of single military authors extend over a dozen volumes, where shall he begin to enter on the trackless expanse before him? And it must be remembered that the reading is a small part of the labour compared with the exertion of thought necessary to perceive and generalise the significant facts. It is not to be wondered at,

then, that when no other inducement was offered to the military student than his own desire for knowledge (as was the case till within these few years), the efforts of those who wished to accomplish themselves in the records and theory of their profession were neither very numerous nor very fruitful.

In the question of what authors he shall read, the perplexities of the student have been enormously increased by the directions given to him by his guides. The task of reading all works of authority on a single military epoch is very formidable. The wars of Napoleon, for instance, are narrated by Jomini, Alison, Thiers, Gourgaud, Mathieu Dumas, Pelet, Ségur, and many others. The various accounts of the Waterloo campaign alone form a small library. And for Wellington's operations in the Peninsula, we must turn not only to the Despatches and to Napier's History, but to the biographies of Massena, Ney, and Soult, the works of Foy, Jomini, and Marmont. Still any of these subjects might be fairly mastered in a few months. But most of the writers on war who claim to be not so much historians as instructors in the art, sweep over an horizon that includes almost the history of the world. They sketch the wars of the Greeks and Romans, or perhaps still more ancient peoples—they quote Polybius and Xenophon and Cæsar, and their modern commentators—make their way through Froissart, Machiavelli, Brantome, Sully, and proceed through the chroniclers of the wars of Louis XIV., Marlborough, Eugene, and Frederick, down to the campaigns of our own day;—leaving it to be inferred that an acquaintance with each of the epochs which were thus illustrated by the genius of great captains is equally valuable to the student who wants first, and above all, to understand something of Modern War. Now, without undervaluing ancient military history, or deeming time to be thrown away when employed in investigating wars which in old days changed the face of the world, it is evident that the facts of importance to be gathered from narratives which are often, from their remoteness, so meagre and obscure, and which relate to systems so different, are few in comparison with the time spent in endeavouring to discover them. When such copious records exist of the wars of the present century, it seems absurd to carry the reader back to times when the face of the earth was different, when armies were equipped and organised after another fashion, and when operations were conducted on methods long ago obsolete.

Taking our stand, then, on modern military history, let us suppose that the field were *not* trackless. Let us suppose that paths were traced on it which should all lead to a result. Let us suppose, in fact, that from amidst the mass of records certain campaigns and battles should be selected which should be *representative* operations, each involving and illustrating a principle or fact, which, when elicited and fully recognised, will serve for future guidance. Here we should have the matter at once greatly simplified; and this is what has been aimed at in the present work. The reader will be required to take no opinions on trust: certain operations will be selected, detailed, explained, and what lessons they afford deduced, till in this way a theory shall be formed on facts and experience which the student may confidently use for general application. And these comments and selections are intended to follow each other in such order that, with each step, footing may be gained for a further advance.

Method pursued in this work.

But before entering on an actual narrative of the operations of armies, it is necessary to know the conditions under which armies operate. We must understand the primary laws of the game before we can begin to follow its progress. Modern armies have gradually become very complex machines, and increased complexity has brought with it increased stringency of the conditions which govern their movements.

The subject of the First Part of this work necessarily preliminary to the study of military operations.

It is probably unnecessary to insist on the fact that organisation and discipline confer vast advantages on an armed force. In these days, when volunteers are drilling in every parish, it is needless to tell any one that an organised body of men amenable to the laws of discipline, accustomed to act together, mutually reliant, trained to perform in unison the movements best suited to the march and the battle, and directed absolutely at the will of a practised commander, is an engine of war vastly more formidable than any assemblage of individuals, however numerous and however skilled in the use of their weapons, but in whom this concerted action is wanting. It is true that, in particular circumstances, in rugged mountains or in pathless forests, untrained warriors may meet disciplined troops on favourable terms. But in all countries which admit of the movements of great bodies, a regular army is immeasurably superior to an armed population. In the tangled wildernesses of New Zealand, the Maori possibly counts for as much as the

The advantages of organisation and discipline taken for granted.

soldier. But on the plains of India, the compact small disciplined force advancing on the native hosts easily loosens and dissipates the vast array. In the sierras of Spain the guerillas often held at bay the seasoned warriors of Napoleon. But in open battle the half-disciplined levies of Spaniards, individually not less brave and strong than their adversaries, were scattered almost invariably before the onset of the steady troops of France. Finally, the fate of the enormous levies raised from the French population in 1870-71, after the destruction of the regular armies, has convinced all who needed convincing, how more than ever futile is the attempt to meet discipline with numbers.

Discipline, in fact, is a union of very different qualities, each of which is an important element in war. It means cohesion of the units and suppleness of the mass—it means increased firmness and increased flexibility—it means the most efficient combination of many and various parts for a common end. "A hundred thousand soldiers," says Macaulay, "well disciplined and commanded, will keep down ten millions of ploughmen and artisans. A few regiments of household troops are sufficient to overawe all the discontented spirits of a large capital."

CHAPTER II.

THE NECESSITY OF A SECURE STARTING-POINT.

THE advantages of organisation and discipline are great, but they have not been obtained except under strict conditions. In saying we have a powerful engine in a disciplined army, it must be admitted also that its operations are restricted by certain laws, and these laws were less stringent when armies were less organised—perhaps, indeed, in proportion to their degree of organisation. In the wars of the middle ages, no great amount of preparation was demanded for a military expedition. Feudal chiefs summoned their retainers to the field from the farm or the workshop. Peasants and citizens, trained by frequent conflict in the use of their weapons, took up the bow or the pike and became at once soldiers. An invading army composed of such materials descended on the enemy's territory like a swarm of locusts, spreading itself to pillage, to devastate, and to subsist. For a special purpose, to meet the enemy, or to attack a town, it could assemble, living on the spoils it had collected; but the necessity of procuring fresh supplies would soon force it to spread again. This, however, it could safely do, so long as the enemy was under the same necessities as itself. Had it been opposed to a force that was always ready to move, and to fight in compact order, it would, in its scattered condition, have fallen an easy prey. But in those days the existence of such a force was impossible. The most powerful feudal sovereign could only make war with the aid of people of consideration and their retainers. The revenues of the crown would have been insufficient in any country for the maintenance of great standing armies. The taxation of the people for the constant supply of troops was impracticable under the feudal

Military system of the feudal period.

system. In those days, then, the invader counted on living at the cost of the invaded territory; the defender was often of necessity driven to do likewise, and the unhappy district that was the scene of operations suffered from friend as well as foe.

Froissart's account of the military expeditions of his age.

The army of a feudal sovereign, then, whenever it advanced even one or two marches from the city or district in which it had been quartered, and was forced by the proximity of the enemy to keep together, was sure to be straitened for supplies. In Edward III.'s first expedition against the Scots, advancing from his rendezvous, Durham, he crossed the Tyne to seek the enemy. He was then between Newcastle and Carlisle, and only a few hours' journey from either town; yet his army fell at once into distress. Messengers were sent, as Froissart tells us, to Newcastle to make proclamation in the King's name, "that whoever wished to get money, he had only to bring provision, wine, &c., for which he should be instantly paid, and a safe-conduct granted him. . . . The next day, the messengers which the lords had sent for provision returned about noon with what they had been able to procure for them and their households; but it was not much; and with them came people of the country, to take advantage of the situation of the army, and brought with them on mules and small horses, bread badly baked, in baskets, and poor thin wine, in large barrels, and other kind of provision to sell, with which the army was tolerably refreshed, and their discontent appeased. . . . Thus they had remained for three days and three nights without bread, wine, candle, oats, or any other forage; and they were afterwards for four days obliged to buy badly-baked bread, at the price of sixpence the loaf, which was not worth more than a penny, and a gallon of wine for six groats, scarcely worth sixpence. Hunger, however, was still felt in the camp, notwithstanding this supply; and frequent quarrels happened from their tearing the meat out of each other's hands." Hearing tidings of the enemy, they then quitted their first camp, and moved to the foot of a hill twenty miles off where the Scottish army was posted. "The intention of the English lords," says the chronicle, "was to keep the Scots besieged there; for, as they could not well fight with them, they hoped to starve them. They knew from the prisoners that they had neither bread, wine, salt, nor other provision, except cattle, which they had seized in the country. Of these they might eat indeed without

bread, which would not be very palatable." Finally, the Scots decamped, by which time the English were in such a plight that, instead of pursuing, they turned homeward the same day. They halted, we are told, in "a beautiful meadow, where there was plenty of forage for their horses; and much need was there of it, for they were so weakened by famine that they could scarce move."

Froissart.

When the Black Prince made the incursion into France which ended with the victory of Poitiers, his troops subsisted on the pillage of the country. "They found the province of Auvergne, which they had entered and overrun, very rich, and all things in great abundance; but they would not stop there, as they were desirous of combating their enemies. They burnt and destroyed all the countries they passed through; and when they entered any town which was well provisioned, they rested there some days to refresh themselves, and at their departure destroyed what remained, staving the heads of wine-casks that were full, burning the wheat and oats, so that their enemies should not save anything. They kept advancing and found plenty everywhere, for the countries of Berry, Poitou, Touraine, and Maine are very rich, and full of forage for men-at-arms."

In such a country, such a system was practicable enough so long as the army acting on it was undisturbed in its depredations by a formidable force. At Issodun, which they took by storm, the Prince's army "found great plenty of wines and other provisions, and remained three days to repose themselves." But "news was brought there to the Prince of Wales, that the King of France was in the city of Chartres with a very large army, and that all the passes and towns on that side of the Loire were secured, and so well guarded that none could cross the river. The Prince then held a council, when it was resolved he should set out on his return to Bordeaux, whence he had come, through Touraine and Poitou, and destroy all the country as he passed." Accordingly he marched back, devastating as he went, and the French army, crossing the Loire at many points, followed hard upon his track. "The Prince of Wales and his army," says Froissart, "were ignorant of the exact motions of the French; but they supposed they were not far distant, for their foragers found great difficulties in procuring forage, of which the whole army was in extreme want. They repented of the great waste they had made in Berry, Anjou,

and Touraine, and that they had not more amply provisioned themselves." It is clear that the Prince had no magazines, but was dependent on the country he marched through: and as soon as the pressure of the enemy drove his army together, it could no longer find means of subsistence.

When the same Prince took part with Don Pedro, the exiled King of Castile, and set out from Bordeaux to aid him, he passed with his army through the territories of the King of Navarre. This sovereign was friendly to the Prince of Wales and Don Pedro, yet the troops pillaged his country. On entering Castile and coming near the enemy, we find "the Prince and his brother were in great want of provisions for themselves and their horses, as they had entered a very barren country. A loaf of bread—and of no great size—was sold in the Prince's army for a florin, and many were very eager to pay this price wherever they were able to get it." Then crossing the Ebro "they found there a richer country than that which they had left; but even here they were much distressed for provision."

This improvident and barbarous system of warfare is not to be attributed altogether to the difficulties of transport in times when both roads and vehicles were of very rude construction. In one of Edward III.'s great invasions of France, his march was followed by a train of six thousand waggons, "stretching," says Froissart, "upwards of two leagues, and laden with tents, pavilions, mills and forges to grind their corn and make shoes for their horses, and everything of that sort which might be wanting." But we are presently informed why this unusual provision was made. "The country had been so pillaged and destroyed, that the ground had not been cultivated for the last three years; and there was such distress and famine in the kingdom of France, that (if corn and oats had not been sent from Hainault and the Cambresis into Artois) Vermandois, the bishopric of Laon and Rheims, must have perished with hunger. It was upon this account that the King, who had been informed of the poverty and distress in France, had made such ample provision before he quitted England. Each lord had done the same according to his rank, except in the articles of straw and oats, and for that they did with their horses as well as they could." The King's baggage-train was intended to supply his army while passing through the desert which war had created. On reaching a more productive region "his people

overran the country to the right and left, and took provisions wherever they could lay hands on them." Arriving at Rheims, the capture of which city was the primary object of the expedition, he besieged it for seven weeks, when "he began to tire; and as his army found great difficulties in obtaining forage and provisions, their horses perished. He broke up his camp and marched off towards Chalons."

The manner in which feudal armies made war.

The picture presented by the armies of the feudal period, is that of an assemblage of knights, barons, and squires, with their retainers, all vassals or auxiliaries of the belligerent powers, who made the quarrels of kings the pretext for enriching themselves by plunder. While moving in the enemy's territory they occupied a great extent of it, pillaging villages and farms, sacking cities, and ransoming captives of consideration. Leaders were esteemed according to their inventiveness and skill in making sudden incursions, in attacking castles, devising stratagems, and drawing up their motley forces in order of battle before charging into the *mêlée* at their head. If a rich town, or district affording abundant supplies, were within reach, and unprotected, these were sufficient reasons for leading the army thither. The idea of a highly-organised force, making many long marches in succession, with the utmost rapidity, towards certain points, holding itself always prepared for immediate battle, and aiming to bring the adversary to terms, not by ravaging his territories, but by defeating his armies, and manœuvring, wherever possible, against his communications as his most vital points, could not possibly enter the mind of a sovereign or leader of those days, since the first condition of such a mode of warfare was wanting. The collection of all kinds of stores and munitions necessary to an army, and the incessant forwarding of these to great distances throughout a long campaign, was a task beyond the resources of the wealthiest feudal monarch. All he could do was to raise, by mortgaging royal revenues or territories, by loans, or by such exactions as his subjects could be induced to submit to, the sums necessary to assemble the army and set it in motion, after which the war was left to maintain itself.

Change in the military system produced by the augmentation of

But in the incessant wars of the middle ages it happened that the power of the nobility which used to stand between king and people became extinct in some of the great kingdoms of Europe. In others the sovereign had gradually acquired such large territories as placed him

beyond the reach of the most powerful coalition of nobles. In either case the power of the crown became absolute; and the monarch, thus able to tax the people at his will for the payment of troops, proceeded to environ his throne with a standing army—a body of men apart from the general population, trained to act in concert, to operate by system, animated by a military spirit, and looking to the crown as the source of reward, of honour, and of advancement. And the competition, in warlike efficiency, that of necessity exists between rival states, would have hastened the steps by which the present condition of armies has been reached, had not the surrounding circumstances opposed limits to their progress. In earlier times the population was sparse, the infertile tracts of land frequent, the roads few and bad, while the artillery and trains which accompanied the march would have been cumbrous and difficult of transport even had the ways been good. Thus many conditions were still wanting to the development of the science of strategy.

the power of the sovereign, and the consequent formation of standing armies.

But, in course of time, the change in the features of a country consequent on the advance of civilisation affected the conditions of war. At all periods the population of districts forming the frontiers of bellicose neighbours had been accustomed to seek shelter from the first rush of an invasion in the great towns, which were fortified to resist an attack. So long as artillery was ineffective and difficult of transport, a strong wall was sufficient for defence; but as roads improved with increasing commerce, and a formidable artillery was enabled to accompany an army, the art of fortification grew in importance. Great engineers appeared, who turned cities into huge fortresses; and as these strongholds were certain to be at the meeting of great roads, they became obstacles in the way of an invader that he could not neglect. They were very different from the castles of ancient barons, which, though they might be strong for defence by reason of their position, yet were for that very reason less useful as obstacles to an enemy's progress, since the loftier the hill on which they were perched the less likely was it that they should command a great road. They differed also from the walled towns of the middle ages, inasmuch as they were calculated to resist for a long siege improved artillery. These fortresses sprang up all over Europe. The richer and more populous the territory, and the more industrious the inhabitants, the more numerous were the towns and the greater the necessity

Further changes which civilisation caused in the system of war.

for fortifying them. From the opposite banks of the Rhine great fortresses watched each other, and on the open frontier of France and Belgium they were thickly set. An advancing army dependent on its communications could neither pass by one of these obstacles nor easily take it. Therefore, in the wars of Louis XIV., whole armies were for months occupied in besieging towns, and Marlborough's battles bear but a small proportion to the number of his sieges. Territories were thus captured and recaptured bit by bit; and the conquest of a province, a country, even of a town, was sufficient object and end for a campaign, and great battles were often fought to cover or to raise a siege. It was not, then, because the leaders of those days were less active and enterprising than their successors, but because they fought under different conditions that their actions were less striking and decisive.

Change in the composition of armies.

However, though military movements were still slow, in the composition of the armies of that time we see a great change from the feudal period. The French leaders—the Villarses, Boufflers', and Tallards—were very different from the Du Guesclins and Clissons. There were no officers in Marlborough's army answering to the Mannys, the Chandoses, and the John Talbots. Officers and men alike were the servants, not the auxiliaries, of their respective governments, and an army was an integer and not an aggregate. As the military machine grew more manageable, and the means of supplying it improved with increasing wealth and population, enterprises became more extensive and operations more systematic. It was discovered that it was more profitable to occupy an enemy's territory than to devastate and plunder it, and that the readiest way to bring him to terms was to beat his armies. Improved roads and vehicles enabled large bodies to move more freely—improved cultivation gave them more abundant means of subsistence. Fortresses were watched, or "masked," by detachments; and Frederick and Napoleon, preferring manœuvres in which they were confident of their skill, to the tedious process of sieges, moved deep into the heart of the theatre of war.

Consequent elaboration of the system of supply.

As the power of an army on a distant enterprise depended on its united and concerted action, it was necessary to its full efficiency that it should be able to assemble at any time. It must, therefore, be accompanied by everything requisite for its maintenance. Food, ammunition,

clothing, medicine, and recruits must find free access to it; and the stream of these supplies must be unceasing. The first preparation for war was the establishment of great depots and magazines, and these were collected in places that were secured from the enemy's attacks, either by natural defences or artificial fortifications. Frontier lines, strengthened for the defence of countries from the aggressions of their neighbours, of course afforded the most favourable points for the establishment of the magazines destined to supply an army of invasion. Thus, if France were at war with Germany, the Rhine offered a natural screen, behind which might be collected the necessary stores; and, when this barrier was further strengthened by a line of fortresses, a French army in Germany could operate in full confidence that the supplies necessary for its maintenance were safe, and that, if compelled to retreat, it would find amidst the fortified depots both subsistence and protection from disaster. Or, again, if Italy were to be the scene of French operations, behind the barrier of the Alps must be collected the vast stores on which the army would rely.

It would be of great importance to the military student to know for certain what particular points the generals on each side relied on for their supplies at all the stages of a campaign. But on this matter history is too often silent, and silent of necessity. For it is generally politic, if not imperative, to collect and deposit these supplies in secrecy, otherwise they would indicate the direction of an intended operation; and though the papers frequently brought to light at the conclusion of a war may reveal the sources of supply, yet such details, which would possess no interest for readers in general, will always be disregarded by the historian, who desires to render his pages splendid and attractive with the description of marches and battles. Hence such records, if they exist, are generally unattainable by contemporary writers, and of too little value to those who come after to insure their preservation. But a costly work has been published in France containing amplest details of the campaigns of 1859 in Italy; and a few particulars gathered from its pages will show what enormous preparation is indispensable for the movements of modern armies.

Campagne de l'Empereur Napoléon III. en Italie, rédigée au Depôt de la Guerre, d'après les documents officiels, &c.

"On the 1st January 1859, France could produce in arms, without any effort more than usual, 640,000 men; a numerical establishment which,

Extract from a review of

the above in 'Blackwood' by the author.

besides furnishing troops for home service and for Algeria, maintained the army of Italy from the time of the battle of Magenta to the time of the battle of Solferino, at the force of about 130,000 men. Of these about 10,000 were cavalry; and the force of field-artillery was, at various epochs, from 312 to 400 guns.

"These guns, nearly all rifled, carried with them ammunition for a great battle. Every corps of the army was accompanied by 110 carriages, containing a second supply of ammunition for artillery and infantry. Finally, a grand park of 430 carriages, organised at Lyons, carried fresh supplies to St Jean de Maurienne, from whence artillery-horses drew them over the Mont Cenis to Susa.

"The arsenals in France were in full operation, converting the old Napoleon field-gun into a rifled weapon. The whole army was supplied with rifled muskets. Besides the field-artillery, 200 guns and 70 mortars were provided for the siege of the Italian fortresses, each supplied, on the average, with 900 rounds of ammunition.

"Tents were provided to contain nearly a million of men—almost enough to house the population of Paris, and covering an area much greater than the city.

"For the necessary supplies of forage and grain the French markets were exhausted, and the vast total was completed by purchases in other countries. The civil bakeries of France were charged with the supply of the troops in the interior, and the Government establishments were thus free to devote all their resources to providing bread for the army of Italy, and to amassing reserves for its future subsistence. But these conversions could not take place in a moment; and to give time for the organisation of supplies, provisions for 100,000 men, and 10,000 horses, for twenty days, were collected at various towns in Piedmont.

"Thus far, then, the French soldiery might survey with great satisfaction the enormous provision made for its comfort and efficiency. But there is another set of items in the account, very interesting and significant, though by no means equally cheering to contemplate. For instance, 363,000 kilogrammes of lint were provided, being 10,000 dressings a-day for more than three months. About 1000 cases of surgical instruments also figure grimly in the list. Every battalion was followed by a mule bearing surgical instruments and dressings for 200 wounded. Every divi-

sion, besides instruments, was provided with 2000 dressings. 'In view of ulterior wants,' we are told there was a reserve of lint and bandages representing 2,800,000 dressings. The medical arrangements comprised everything necessary for 15,000 sick for three months. Beside the field-hospitals which first received the wounded and diseased, military and civil establishments were organised in the interior of France, to relieve the army of such encumbrances by accommodating 17,000 patients. Such are some of the colours used in painting the gloomier pictures that hang in the temple of Fame, where the bright eye of glory is covered with a patch, and where the exulting tread of conquest is exchanged for a painful hobble upon wooden legs.

"At risk of being tedious, we have given some of these details, because, for want of them, readers of military operations are often insensible to the vast preparations required for the commencement of war between great Powers, and to the nature of certain facts which must enter into military calculations, and which, though they seldom appear on the surface of history, form the great elements of perplexity for governments and generals. Sending forth an army is like sending forth a city equal to the capital of a great state, transporting it, with all its means of food and shelter, from place to place at uncertain times and in unforeseen directions, and leaving it all the time entirely dependent on the territory from which it set forth for the maintenance of its numbers and the supply of its daily wants."

The Duke of Wellington's correspondence after the battle of Talavera sets in the strongest possible light the essential importance of magazines, and the consequences of operating without them. The English army, leaving its depots in Portugal, had moved into the valley of the Tagus to co-operate with the Spanish forces which were opposing the French corps in front of Madrid. The junction of the allies effected, they had engaged and beaten the enemy at Talavera. As the commander of an auxiliary force, acting in conjunction with a native army, in a country which, though sterile in parts, yet afforded ample supplies, Wellington could not have anticipated any difficulty in procuring provisions, for which full value would have been readily paid; and he had accordingly entered Spain relying on the promises of the Spanish Government to provide ample subsistence and means of transport for his army. Yet, victorious as he was, he speedily found that army crippled for want of food and

forage; and, after numerous remonstrances, he was driven to execute what he had frequently threatened, and marched his troops back to Portugal.

'Wellington's Despatches' (1809) on the necessity of a system of supply.

"A starving army," he says to his brother, in narrating the privations of his troops, "is actually worse than none. The soldiers lose their discipline and spirit. They plunder even in the presence of their officers. The officers are discontented, and are almost as bad as the men; and with the army which a fortnight ago beat double their numbers, I should now hesitate to meet a French corps of half their strength.

"To carry on the contest with France to any good purpose, the labour and services of every man and of every beast in the country should be employed in support of the armies; and these should be so classed and arranged as not only to secure obedience to the orders of the Government, but regularity and efficiency in the performance of the services required from them. Magazines might then with ease be formed and transported wherever circumstances might require that armies should be stationed.

"But as we are now situated, 50,000 men are collected upon a spot which cannot afford subsistence for 10,000 men, and there are no means of sending to a distance to make good the deficiency."

Again he says, "If we had had 60,000 men (British) instead of 20,000, in all probability we should not have got to Talavera to fight the battle, for want of means and provisions. But, if we had got to Talavera, we could not have gone further, and the armies would probably have separated for want of means of subsistence, probably without a battle; but certainly afterwards."

And, lamenting the opportunities thus lost, he tells Lord Castlereagh: "If we could have fed, and have got up the condition of our horses, we might probably after some time have struck a brilliant blow upon Soult, at Placencia, or upon Mortier in the centre." "I have no motive," he says to a Spanish minister, "for withdrawing the British army from Spain, whether of a political or military nature, excepting that which I have stated to you in conversation—namely, a desire to relieve it from the privations of food, which it has suffered since the 22d of last month; privations which have reduced its strength, have destroyed the health of the soldiers, and have rendered the army comparatively inefficient."

Sherman's march in

Many preceding passages of this chapter will show that the march of Sherman across Georgia in 1864 is neither a novelty in war nor a

refutation of what has been said respecting the necessity of a secure base. Like the Black Prince, he marched through the unprotected country of an enemy, whom he sought to injure by ravaging the district which he traversed; and like Edward III. he carried with him a great train of supplies, not because the territory did not afford them, but because the appearance of a hostile force, or of a formidable obstacle of any kind, might, by obliging him to assemble his army, deprive him for a time of the power of subsisting by plunder. But the object and duration of the movement were definite and limited. A certain extent of country was to be traversed with the calculated certainty of reopening communications beyond. There is evidently nothing in the operation which can modify existing theories, for it remains as impracticable as before to explain or to conceive how sustained operations can be conducted in the face of an enemy without a secure starting-point.

Georgia not exceptional.

CHAPTER III.

THE NECESSITY OF GOOD ROADS FOR THE OPERATIONS OF A MODERN ARMY.

THE fortified line of magazines constituting the base being formed, it is indispensable to a sustained and dubious enterprise that good roads should exist between the magazines and the army as it moves away from its base. In mountainous districts where the roads are so rugged and steep as to be unfit for wheeled vehicles, the necessary supplies must be carried on pack-horses or mules. But the quantity which an animal can draw is so much greater than that which it can carry, that the number of animals and the extent of road they occupy must be immensely increased. It is therefore very difficult, almost impossible, to supply a very large army, under such circumstances, for a long campaign; and roads practicable for carriages are indispensable to all operations, except those which aim at attaining their results in a brief and definite time. And not only must the roads be good in the ordinary sense, but they must be great main arteries of the region, solidly constructed. Anybody who lives in the neighbourhood of a newly-established brickfield, will see how quickly the parish roads are broken and wrought into hollows by the passage of the heavy brick-carts. The trains that follow an army, laden as they are with ammunition, pontoons, platforms for guns, siege-artillery, and other ponderous materials, soon destroy all but the best roads. In order, then, that the enormous streams of supply may be uninterrupted, it is necessary that the roads should be of the best construction, like our own highways and the great paved *chaussées* of the Continent. The proof of this is found in the difficulties under

Carriage-roads indispensable to sustained operations.

which armies begin to labour directly they are thrown on bad roads for their supplies. Our own experience in the Crimea shows that even seven miles of soft soil interposed in winter between an army and its depots, may be almost a fatal obstacle; and General McClellan, in his Report of his campaign in the Yorktown Peninsula, tells us—"On the 15th and 16th the divisions of Franklin, Smith, and Porter, were with great difficulty moved to Whitehouse, five miles in advance; so bad was the road that the train of one of these divisions required thirty-six hours to pass over this short distance." And again, speaking of the movement from the York River to Williamsburg, he says, "The supply-trains had been forced out of the roads on the 4th and 5th to allow the troops and artillery to pass to the front, and the roads were now in such a state after thirty-six hours' continuous rain, that it was almost impossible to pass even empty waggons over them."

McClellan's Report on difficulties from bad roads.

But it is not only on account of the supplies that great armies operate by great roads. It is also because the march of the troops and artillery becomes on bad roads so slow and uncertain that all the calculations on which a general bases a combined operation are liable to be falsified, and the rapidity necessary for a movement intended to surprise or foil an adversary is lost, so that the design is foreseen and frustrated by the enemy. An example of the different rate at which troops move over a good and a bad road is afforded by the campaign of Waterloo. Napoleon following Wellington, and Grouchy following Blucher, both quitted the field of Ligny on the afternoon of the 17th June. The Emperor, marching by the great paved *chaussées* of Namur and of Brussels, assembled his army that night in the position of Waterloo, seventeen miles from Ligny. Grouchy, moving by country roads, had great difficulty in bringing his 30,000 men to Gembloux, five miles from Ligny, by ten o'clock the same night. And, to quote more modern instances, General McClellan says, "On the 14th of March, a reconnaissance of a large body of cavalry with some infantry, under command of General Stoneman, was sent along the Orange and Alexandria Railroad to determine the position of the enemy, and, if possible, force his rear across the Rappahannock; but the roads were in such condition that, finding it impossible to subsist his men, General Stoneman was forced to return." And on another occasion, when the Confederates suddenly fell back from

See Map No. 9.

See Map No. 8.

near the Potomac, just as he was commencing to advance upon them, he speaks of their retreat as "unfortunate, in that the then almost impassable roads between our position and theirs deprived us of the opportunity for inflicting damage, usually afforded by the withdrawal of a large army in the face of a powerful adversary."

Operations of brief duration may be accomplished by inferior roads.

While, however, impressing on the reader the absolute necessity of good roads for the sustained operations of a campaign, it is not asserted that considerable bodies of troops never move by indifferent roads. Many instances of the contrary would appear in a short course of military reading. Thus, Napoleon carried 40,000 men from Switzerland to Italy over the St Bernard; but this was for the sake of obtaining by surprise an advantage of position over the Austrians, and, that position attained, he had the great roads of Italy for his future movements, and the territory between the Alps and Po, friendly to him and hostile to the Austrians, was available for supplies. Again, Wellington, following the French in 1813 on the great road of Valladolid and Burgos, quitted it to throw his army across difficult mountain-paths; but he did so for the purpose of shifting his base from Portugal to the northern ports of Spain, with which he presently opened new communications. And McClellan, crossing the Potomac after Lee, subsequent to the battle of Antietam, moved by the road from Harper's Ferry along the foot of the Blue Bridge, which is probably hilly and broken; but as soon as he reached the Manassas Railway he came into direct communication by that railway with Washington. Thus each of these movements was of brief duration, and made with the definite object of immediately attaining a new and more convenient communication with the depots of supply.

See Map No. 5.

See Map No. 11.

See Map No. 8.

Movement of troops by railway.

Whatever advantages good roads can confer must be immensely increased when railways are employed. In using them the first step must be the collection of the rolling stock on the required points of the different lines. To take the readiest example, if an order were issued in London in the evening, this would be accomplished on any of our lines by daybreak next morning, to an extent that would insure the despatch of trains thenceforward without interruption. But in fact a continuous movement might be commenced in about six hours with the stock collected in that interval.

This preliminary measure accomplished, the following conditions attach to the conveyance of troops of all arms:—

A train of from twenty-four to thirty-four carriages of all kinds—passenger carriages, cattle-trucks, horse-boxes, and break-vans—can be propelled by one engine; and a speed of from twenty to twenty-five miles an hour, though lower than what is attainable, is considered most suitable to a continuous movement by lessening the risk of breaking down.

Proportion of railway transport to infantry,

An ordinary second or third class carriage holds thirty-two soldiers. A horse-box holds three horses, and a cattle-truck six to eight. Taking the effective number of one of our infantry battalions at 1066 men and thirty-three officers, the battalion, with its transport and equipment, including 14 waggons and 65 horses, can be conveyed in 2 trains.

cavalry,

One train will contain a squadron of cavalry of 120 horses, and four trains the regiment.

artillery.

Each artillery waggon, or gun, with its limber, occupies one truck. A battery of horse artillery, or a field battery, with its men, horses, and equipment complete, requires two trains of from thirty-one to thirty-three carriages each.

Time for loading the trains.

A battalion of infantry standing ready at the station, and properly practised, embarks in a few minutes. Cavalry require twenty-five minutes to fill the train, and artillery half an hour. If all embark at the same station, only three trains could be despatched in an hour. But by creating temporary platforms the loading can take place simultaneously. A platform 300 feet long allows all the carriages of a train to be loaded at once—and such a platform can be made in three hours, by 200 men, out of materials always at hand on railways.

Rate of despatch of trains.

Under such circumstances it has been calculated that there would be no difficulty in forwarding, on an English railway, large bodies of troops at the rate of one train every seven and a half minutes, or eight trains per hour—that being the shortest interval judged safe on such occasions. The transport of an English army corps, according to the latest organisation, might therefore be thus calculated in round numbers:—

An English Division requires the following:—

Infantry, 7 battalions, ...	14 trains.
Artillery, 2 batteries and ammunition column, .	6 ,,
Cavalry, 1 regiment, ...	4 ,,
Staff, engineers and military police, . .	2 ,,
	26 ,,

3 infantry divisions,	78	trains.
1 cavalry brigade (3 regiments, 1 battery),	14	,,
Reserve artillery (6 batteries and ammunition column),	14	,,
Engineers, telegraph, &c.,	4	,,
Staff and military police,	2	,,
Field hospitals and ambulance,	16	,,
Control and supplies for 3 days,	16	,,
	144	,,

Supposing the carriages collected and the platforms made for embarking and disembarking, the corps could be conveyed sixty miles in twenty-one hours from the commencement of the movement. This amount of force might be despatched on our chief railways without aid from the return carriages. Other bodies might also follow to the distance named, or even farther, since the carriages would return in time to maintain the continuity of the movement. But if the distance were doubled the operation must be interrupted.

This calculation rests on data afforded by double lines conducting a great traffic, and possessing the maximum amount of officials, servants, and rolling stock. Such facilities would exist only in an inferior degree in many parts of the Continent, or in America. The power of maintaining the movement of large bodies must also in most cases be diminished by the necessity of continuing to supply the great towns which depend on railways for food and fuel. Other drawbacks must also be taken into account in estimating the speed of movements by rail. On long journeys intervals of rest are necessary. Men and horses are exhausted by the constrained position, packed closely as they must be, and could scarcely be at once ready to march after travelling a great distance without a halt.

The modifications caused by railways in military operations will be noticed as occasions arise in future chapters.

CHAPTER IV.

ARMIES OPERATE GENERALLY BY SEVERAL ROADS AT ONCE.

THE reader, then, should acquire the habit of thinking of an army, not as capable of being moved anywhere in the theatre of war, but as dependent for its efficiency on a line connecting it with points in its rear—the line being a good and practicable road, and the points secure magazines.

The next step is to consider the army, not as, in general, collected on the main road, but as distributed in parts on several roads.

When hostilities begin between nations, one of them at the outset almost always finds reason for standing on the defensive, and allows the other to make the attack. Declaring war against Napoleon in 1815, the Allies were induced of necessity to await the attack, because their forces, greatly superior in numbers, were scattered over an immense space. Only Wellington's and Blucher's armies were ready to meet the first onset. They were in Belgium, and three great roads cross the frontier leading from French fortresses upon Brussels, by either of which Napoleon might advance, after concentrating on it, behind the screen of the fortresses, his whole army; therefore Wellington and Blucher were forced to guard all these avenues to Brussels by placing on them portions of their forces. But these portions were liable, each or any, to be attacked by the whole French army—in fact, only one Prussian corps was assembled at the point where Napoleon's whole force broke in. Under such circumstances, all which that corps, or any of these fractions of the Allied armies, could do, was to take advantage of the fact, that the heads only of the great French columns as they advanced on the roads were available for imme-

See Map No. 9.

Why armies on the defensive operate by several roads.

diate attack, and to dispute the advance till the French front should so grow in extent, by accessions from the rear, as to be irresistible, and then to withdraw with as good a face as could be maintained. In this way time would be gained for the concentration of the remainder of the Allies upon the threatened line. Whereas had any line been entirely neglected, the enemy, being unopposed there, might be in Brussels before any adequate force could have time to interpose. It is very easy to understand, therefore, why an army on the defensive is spread over a large front, on lines which radiate from the point they seek to cover, like the spokes of a wheel from the nave.

Why invading armies do so likewise.

It is not at first so manifest why an *invading* army operates by many roads; but a brief calculation will suffice to show the reason.

In round numbers, 30,000 infantry on the march extend over about 5 miles of road; 60 guns with their attendant carriages occupy 2½ miles; 6000 cavalry, in sections of threes, allowing 11 to 12 feet of space longitudinally to each horse, fully 4 miles.

If Napoleon's army had entered Belgium by one road instead of three, it would have extended as follows:—

90,000 infantry,	. . . . .	15 miles.
20,000 cavalry,	. . . . .	14 ,,
350 guns, &c.,	. . . . .	14 ,,
	Total, ...	43 ,,

irrespective of intervals between the columns, of losses of distance, of stores of any description. Therefore, on a single road the head of the column must have been marching *two days* before the rear could have quitted the place of rendezvous. An army moving thus would manifestly lay itself open to defeat by a very inferior force, which, by enveloping the head of the column, might inflict a succession of crushing blows before the rear could arrive on the point of action. And, in fact, though Napoleon's columns moved by three roads, the divisions in rear, moving from the same bivouacs as those in front, failed to deploy on the field of Ligny till the afternoon of the following day.

When General McClellan moved from Washington to attack the Confederates, who, having defeated Pope, had invaded Maryland, he thus replied to some comments on his method of advancing, addressed to him

by the Commander-in-Chief: "If," he says, "I had marched the entire army (about 100,000 men) in one column along the banks of the river instead of upon five different parallel roads, the column, with its trains, would have extended about fifty miles, and the enemy might have defeated the advance before the rear could have reached the scene of action." McClellan's Report on the difficulties of a single road.

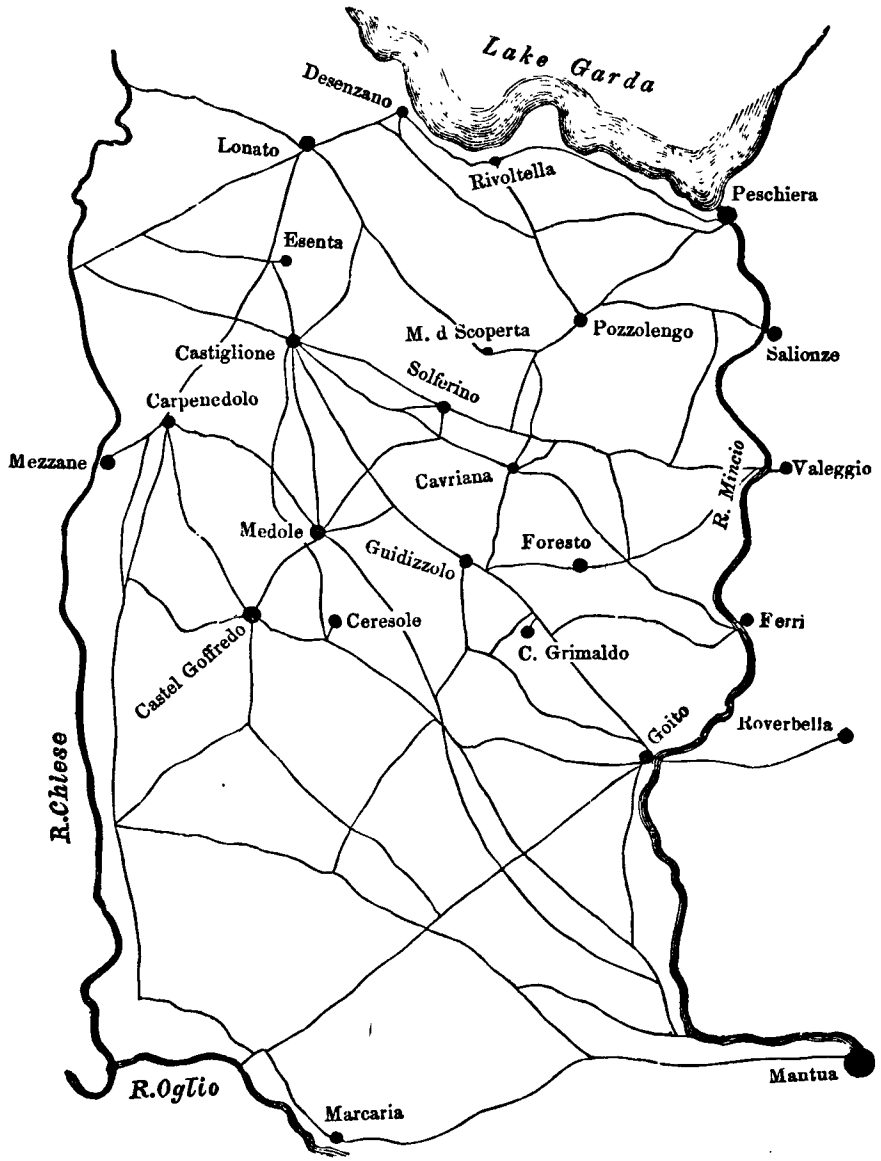
It was found in the war of 1866, that a Prussian Army Corps, consisting of 42,512 men, 13,802 horses, 90 guns, and 1385 carriages of different kinds, took up, on the march, about 27 miles of roadway, 18 miles being occupied by the combatant forces, and 9 miles by the train.

Now we will suppose, on the other hand, the extreme case that an army, on quitting its bivouacs, could find separate roads for every brigade, all converging on the point where an engagement might be expected, and all sufficiently near each other for constant communication and concert. The whole army would then be assembled simultaneously on the space to be occupied by the line of battle. In no case, of course (except in limited marches on great plains), are such facilities to be expected, but the illustration will serve to show why an army always marches by as many roads leading towards its destination as are sufficiently near to each other to admit of mutual support.

As the different portions of an army on the defensive must unite as quickly as possible on the line by which the enemy advances, it is, of course, indispensable that there should be good intercommunications or lateral roads, by which they can readily approach each other. And these should be not coincident with the front of the army, but in rear of it—otherwise, if a division or corps were pushed back by the rapid advance of the enemy, the line of intercommunication would be broken. Necessity of good lateral communications.

Also, if an army were advancing towards the enemy, and using, for the sake of facility, several adjacent roads, these, however near, should not be separated by any impassable obstacle, such as a great swamp, a mountain-ridge, or a river without fords or bridges; otherwise, one portion of the army might be merely spectators of an attack upon the rest, as happened at Rivoli, where an Austrian column, moving on the left of the Adige, witnessed the defeat of the army on the other bank; and as occurred more notably in 1796, when the Austrians, advancing into Italy on both sides of Lake Garda, were beaten in succession by the same French army.

Thus the line by which an army moves is not necessarily, nor frequently,


Lake Garda
Desenzano
Lonato
Rivoltella
Peschiera
Esenta
M. d Scoperta
Pozzolengo
Salionze
Castiglione
Solferino
Carpenedolo
Mezzane
Cavriana
R. Mincio
Valeggio
Medole
Guidizzolo
Foresto
Ceresole
Ferri
C. Grimaldo
Castel Goffredo
Goito
Roverbella
R.Chiese
R.Oglio
Mantua
Marcaria

a single road, but several roads tending in the same direction, and united by a sufficient number of cross-roads. For instance, the French army moved to Solferino thus :—

1st Corps,	from	Esenta	towards	Solferino.
Imperial Guard,	,,	Castiglione	,,	Solferino.
2d Corps,	,,	Castiglione	,,	Guidizzole.
4th Corps,	,,	Carpenedolo	,,	Medole.
3d Corps,	,,	Mezzane	,,	Castel Goffredo.

Sardinians from Lonato and Desenzano { by Madonna della / Scoperta and Rivoltella } on Pozzolengo. Pozzolengo to Medole, 8 miles.

And the Austrians reached the same field from the Mincio thus :—

8th Corps	crossed	Mincio	at	Salionze	on Pozzolengo.
5th ,,	,,	,,		Valeggio	,, Solferino.
1st ,,	,,	,,		Valeggio	,, Cavriana.
7th ,,	,,	,,		Ferri	,, Foresto.
3d ,,	,,	,,		Ferri	,, Guidizzolo.
9th ,,	,,	,,		Goito	,, Ceresole.
11th ,,	,,	,,		Goito	,, Castel Grimaldo.

2d Corps from Mantua to Marcaria on the Oglio to turn the French right.

The two armies, each of which was advancing in ignorance of the movement of the other, thus occupying on the march the space from flank to flank which was necessary for the formation of the line of battle.

When armies approaching each other are still many marches distant, as may happen at the outset of a campaign, it is not, of course, necessary that the various columns, as they quit their own frontier, should be within supporting distance. It is when an engagement may be imminent that the lines of intercommunication become of such special importance. Moreover, it then becomes necessary to shorten as much as possible the distance between the head and the rear of each column by widening its front. A narrator of the Waterloo campaign says, that when Wellington retired from Quatre Bras upon Waterloo, his troops moved in the open fields on each side, leaving the road for the artillery and trains. But before the French, following him, passed Genappe, a violent rain had rendered the fields impassable; consequently their troops were restricted to the road, and the column was lengthened, entailing these consequences, that Wellington's compact march was beyond reach of pressure from the enemy, and that, while his troops filed into their destined positions in

the line, the rearmost French divisions did not reach the field till long after dark.

No better illustration of this part of the subject can be found than in the orders for the movement of the French army upon Casale in 1859 when about to cross the Po. They ran thus:—

Camp. de Nap. III.—Compactness of movement on the march prescribed.

"As the army is about to operate in a country cut up with canals and rivers, the troops on the march will be nearly always in column on the causeways, and the heads alone will be at once ready for action. It is essential, then, that one division, for example, shall be so organised as to be ready to enter into line as soon as possible. To this end a division of four regiments, one battalion of chasseurs, two batteries, and two squadrons, shall be thus divided into four movable columns—

"1. A peloton of cavalry to clear the way.

"2. 20 sappers and pioneers with pickaxes to destroy obstacles, and throw small bridges of felled trees over canals.

"3. Two guns without waggons.

"4. A company of chasseurs to protect and flank the guns.

"5. A regiment of infantry.

"The rest of the battery; and so for the remainder.

"In spite of the inconvenience of prolonging the columns, a great distance will be left between them to avoid confusion.

"When a road is parallel to the railway, the infantry will march on the railway, guns on the road.

"On arriving at crossings, horsemen will be sent on all the roads to preserve communication with columns that move parallel, and to look out for the enemy.

"Whenever a halt is made, and the fields at the side of the road are practicable for infantry or guns, the troops will form up on as wide a front as possible, to diminish for the moment the depth of the column.

"It need not be said that generals will take all the lateral roads which conduct to the same end, provided their columns will not thereby be too much separated.

"Should a column be attacked, the trains will be parked at once, to leave the road free for troops."

(To "park" trains is to form them in compact order in fields or open spaces adjoining the road.)

Railways do not supersede ordinary roads for manœuvring.

It would be a mistake to suppose that the preceding matter of this chapter depends for its truth on the condition that it must be applied only to regions where railways do not exist. The districts, even in Europe, are few where existing railways would leave great armies in any considerable degree independent of the ordinary roads; and, in fact, the very orders just quoted were given in a theatre of war traversed by railways. But whether the communications of this kind be few or many, one fact alone suffices to prove the point, which is, that an army advancing, or intending to advance, can never trust to railways which are within the sphere of the enemy's operations, even to the most extended line of his outposts, since a few men can, in a very short time, render a railway temporarily unserviceable. In July 1870 a few Prussian lancers crossing into French territory, blew up a viaduct of the railway by which the communications between the parts of the French army were chiefly maintained. It was partly due to this cause that MacMahon did not receive at Wörth the support on which he had relied when he stood to accept battle there. There will always, therefore, be a considerable space between the fronts of the armies where only the ordinary roads can be relied on for manœuvring; and it is only in an inconsiderable degree, and for partial movements, that railways can with confidence be resorted to, when opposing forces are so near that collision becomes imminent. Thus Louis Napoleon, in the transfer of his army from the south to the north bank of the Po in 1859, for the advance by Novara to the Ticino, only moved one corps (Canrobert's) by rail. In the action at Casteggio, Forey's troops, engaged with the enemy, were reinforced by means of the railway; but that railway lay directly in rear, and Forey was fighting a defensive action. Again, in the battle of Bull Run, the defeat of the Northern army was mainly accomplished by the attack of a brigade brought on the field by the Manassas Railway from the Shenandoah Valley. But none of these operations were of sufficient magnitude to render it necessary to treat as peculiar the case of armies manœuvring in a theatre intersected by railways, which need be regarded only as roads giving greatly increased facilities for movement, at the same time that they afford an extremely precarious reliance when within reach of the enemy's enterprises.

See Chap. III. Pt. V.

See same Chap.

In small detached bodies, infantry average 2¾ miles an hour; field-

Rate of marching.

artillery, $3\frac{1}{2}$; cavalry and horse-artillery, 5, inclusive of halts of a few minutes.

Length of marches.

The rate decreases as numbers increase. A division marching on one road can seldom do more than $2\frac{1}{4}$ to $2\frac{1}{2}$ miles an hour, and a corps not more than 2 miles.

For a division of all arms, 15 miles is a fair average march; 15 to 20 miles a long march; and above 20 miles a forced march.

A large army marching continuously seldom covers more than 10 or 11 miles a-day, measured on the map from point to point. The most rapid continuous march on record is that of Napoleon from the Channel to the Rhine in 1805. Three corps d'armée marched on three distinct lines, each corps marching by divisions at a day's interval. The average distance was 400 miles and the time taken 25 days.

In 1870 the Second German Army, from Metz to the Loire, averaged 12 miles a-day. The IX. Corps, which made the fastest march, averaged $13\frac{1}{2}$ miles for the first 9 days. In consequence of urgent orders received at Troyes it pushed on to Fontainebleau, 76 miles, in 4 days. This was considered almost a forced march.

One of the best marches on record is that of Bulow's corps, in the Waterloo campaign, on the 16th June, from around Liege to Hannut, and thence (on receiving notice of impending battle) towards Gembloux, accomplishing about 35 miles by 9 P.M.; after which the corps marched and fought on the 17th and 18th.

CHAPTER V.

SUPPLY OF ARMIES AT A DISTANCE FROM THEIR BASE.

In order to complete the general idea of the conditions under which armies operate, it only remains to consider the manner in which they are supplied when at a distance from their original base, frontier, or starting-point. For although a large force might be supplied with sufficient ease and certainty when separated from its magazines by only 20 or 30 miles of good roads, yet it is evident that, with every march in advance, the stream of supply would become more and more precarious, till at length the commander would be unable to base any calculations for future movements on so dubious a foundation. And of such importance is this question of supplies, that in a little book attributed to the Prussian General Bulow, which appeared in 1801, on 'The Spirit of the System of Modern War,' the author commences by saying, that he considers the system to be founded on the fact that modern armies are entirely dependent on their magazines. But he speaks expressly of modern war, evidently pointing to the fact which has been discussed in the preceding chapters, that at an earlier period, when armies were not dependent on their magazines, the whole system of war was different. And the change has affected not merely military operations, but the condition of the populations of Europe.

Evils attendant on a rude system of warfare.

In the days when armies subsisted of necessity on the pillage of the country they made war in, the rigours of war were inseparable from the fact of war. The theatre of hostilities, like the English lines of invasion in France, like parts of Germany in the Thirty Years' War, became a hell, the soldiers demons. Any narrative of the time will show that life was to the wretched inhabitants filled with elements which make no part of

the existence of any modern European people—terror ending in recklessness, the absence of all that provision for the future which hope and security induce, a greedy snatching at any present enjoyment or respite from evil, and a general impression that the world was a scene of injustice, given over to the dominion of devils. These rigours naturally reacted on the character of those who inflicted them: soldiers grew remorseless, indifferent to suffering, fond even of inflicting it; friends as well as foes were subject to outrage, war was licensed devastation, and the territories which were the scene of hostilities became frightful deserts.

These evils modified by the establishment of standing armies.

With the establishment of standing armies and the necessity for supplying them from their own resources, these horrors in great measure ceased. They were no longer inflicted by an army on its own or a friendly territory, but were used as a weapon against the enemy. But enough of the former spirit of cruelty still identified itself with war, to cause commanders of high honour and reputation to commit deeds which from our point of view must always stain their names. Turenne ravaged the beautiful cultivated territory known as the Palatinate; and Marlborough, after marching from Flanders across Germany, supplied by the contributions of friendly states, resorted, on entering Bavaria, to what he calls "military execution," or systematic devastation, as a means of detaching the Elector from the interests of France, by compelling him to witness the suffering of his subjects and the ravage of his dominions.

System of supply grows in importance with discipline and organisation.

A little later than this, when discipline grew into paramount importance, when movements were quicker, and when armies in the presence of a ready foe found they must be always prepared to fight, the question of supplies came to be a still more considerable element in war. A curious calculation exists, made by Tempelhoff, a Prussian general, the historian of Frederick's wars, which shows how rigorously the operations of his master were fettered by the necessity of providing assured subsistence for his army.

Tempelhoff on the supply of Frederick's armies.

"A hundred thousand men," he says, "consume daily 150,000 pounds of flour, equal to 200,000 pounds of bread.

"Bread and forage are seldom to be had in sufficient quantities on the spot—hence magazines are established along the line of operations.

"The bread-waggons carried a supply for 6 days—the men for 3 more.

"In commissariat-waggons, flour for 9 additional days could be con-

veyed—1 waggon to 100 men for 9 days: thus 1000 waggons supplied the army for that time.

"An operation of 18 days' duration could thus be conducted without an intervening magazine; but field-ovens were required to make the flour into bread. But bread for 3 days requires 2 days to bake it. At the end of 6 days, therefore, a halt must be made to bake, or else the ovens would fall behind-hand with the supply. So that, advancing into an enemy's country, before magazines could be formed there, 6 days was the extent of march practicable without a halt.

"But when the ovens were at a greater distance from the magazines than the commissariat-waggons could perform, going and returning, in 9 days, the army fell short." Sixty miles was therefore the maximum distance to which the field-ovens could advance from the magazines. If we add to this 40 miles, for the space which the bread-waggons (which held 6 days' rations) could traverse in 6 days, going and returning, we have the full extent to which an army could venture to advance in an enemy's country without forming magazines there—namely, 100 miles.

The organisation of armies in the 18th century rendered them unduly dependent on magazines.

As at this time an army, instead of being an assemblage of bands or companies, each under its own immediate leader, had become an integer which did not admit of ready separation into parts; so the system of supply had also been highly organised in order to maintain this somewhat cumbrous machine in working order. Communications, to manœuvre against which scarcely entered into the combinations of the generals of a preceding age, had now come to be of the first importance, and the capture of a great magazine or a great convoy was a matter serious enough to derange a whole plan of campaign.

This ultra-methodical method of campaigning continued till the time of the French Revolution. Confronting all Europe, and destitute of all the material of war except men, France poured forth armies half-clad, half-fed, half-armed, but filled with valour, intelligence, and zeal. Old traditions of methodical war, where troops slept under tents and were fed from magazines, were of no value to armies which possessed neither tents nor magazines. A new organisation became necessary to meet these new conditions. An army, no longer itself an integer, was resolved into divisions, each complete in itself in all arms, and capable either of fighting alone, or of taking its place readily in line of battle. The amount of

Increased mobility of armies brought greater facility of supply,

independence thus gained rendered the task of supplying them comparatively easy. Alike in the plains of Flanders and on the summits of the Alps, the soldiers of the Republic learned to bivouac, and to maintain themselves in the country they made war in. What they lost in method they gained in mobility; taught by always present and always pressing necessity, they acquired the secret of spreading in order to subsist; but, being opposed to disciplined troops, they were forced also to preserve a due facility of reassembling for battle. They were at once the most accomplished of marauders and the most intelligent of soldiers. And it was this combination of seemingly adverse qualities that distinguished them from the armies of the middle ages, where the troops were indeed skilful in the art of plundering, but had neither the discipline nor intelligence necessary for forming out of the scattered units a combined force that could oppose a regular army.

Formed by this rough training, the French army became an instrument in the hand of the most subtle, inventive, and audacious leader in the world. The old system of Frederick met the new system directed by Napoleon, and was shattered to pieces. And at the root of this new system lay the new method of procuring supplies.

but did not enable them to dispense with magazines.

But it would be a great mistake to suppose that Napoleon, when he became both chief of the state and head of the army, led on to conquest merely a horde of plunderers, who lived from hand to mouth. No general was ever more careful in accumulating great magazines and in protecting his communications. All his precepts prove that he felt more strongly even than the strictest generals of the old school the necessity of holding

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fast to the links which united him with his base. After Jena, for instance, when he had broken in a single day the power of Prussia, his first thought, after providing for the pursuit of the defeated enemy, was to establish a fresh and shorter line of communication with France, and to station on it great hospitals and depots of stores. In what, then, it may be asked, did the advantage of the French system consist, since it did not free him from the restrictions which hampered others?

The system of requisition was not new. In the wars of all epochs forced contributions had been raised. But those contributions had been exacted chiefly for the purpose of replacing the stores which the first operations would exhaust. Thus time was given in which to accommo-

date the burthen to the population. The contributions were made proportionate to the resources of each district, and were drawn from a greatly-extended area. But the French Republican armies, dispensing, in great degree, with the supplies which armies had previously drawn from their own countries, and used in their first operations, seized at once, on entering a territory, on all that they required for daily consumption—bread, meat, wine, cattle, fuel, forage, and transport; thus ruining the country along their line of march, but gaining thereby great facility for rapid and sustained operations; while the more deliberate and equitable system formerly practised was still resorted to for the filling of the great magazines, which a lengthened campaign would render indispensable.

It will be easily seen that this Republican system could not be applied by an army acting either in its own or in friendly territory. It was equally impracticable for the British in Spain, and for the Austrians in Germany and in Italy. These armies could only draw their subsistence either from their own countries or from the willing contributions, duly paid for, of the people in whose countries they were operating. But however supplies may be obtained, the storing of them in magazines along the lines on which the army operates is indispensable—and it is therefore necessary to inquire what is the method of forming depots to which all generals must resort. This is evidently a matter on which it is in vain to theorise, and on which no evidence is of value unless drawn from the facts of war; and the following account is therefore given of the supply of the 2d Prussian army, commanded by Prince Frederick Charles in the campaign of 1870-71, the system being not less stringent or exhaustive, and more methodical, than that practised by Napoleon:—

Supply-trains of a Prussian army corps.

Each Prussian army corps on war footing has attached to it for purposes of supply—

5 'Proviant Colonnen,' each composed of 30 military 4-horse waggons: they carry 4 days' rations for men—generally attached to divisions, and charged with immediate distribution to the troops.

5 'Fuhr Park Colonnen,' 80 waggons each, hired, bought, or procured by requisition—generally 2-horse: they carry 6 days' rations for men and corn for horses, and generally follow in rear of the army corps or maintain connection with the magazines.

Further, such additional hired or requisitioned transport (obtained in

the country) as may be found necessary to maintain the line of stages when the distance from magazines becomes considerable.

The soldier carries 3 days' reserve rations of biscuit, rice, &c., made up in a packet in his knapsack. These are not opened except by special order. Besides this, he carries such ordinary rations (not exceeding for 3 days) as may be directed.

Supply of the 2d Prussian army in 1870-71 at different periods of the campaign.

The *Second Army* consisted at first of 5 corps—viz., the Guard, III., IV., X., and XII.—coming from about Berlin, Magdeburg, and Dresden.

First Period.—The concentration on the Rhine, about Bingen, Maintz, and Worms, was effected by rail. The troops were fed on the way at certain selected stations, where supplies were collected and meals prepared for the men as they passed through. As they concentrated on the Rhine, they were supplied by a fleet of steamers bringing provisions from Belgium and Holland, where large quantities had been purchased.

See Map No. 18.

Second Period.—Advance into France. The order to advance was issued before the supply-trains (which could not be forwarded so long as the lines were required for the troops, and were mostly sent by march route) had arrived. To extemporise a sufficient train the corps commanders received authority to buy, hire, or procure by requisition all the waggons and carts in the vicinity; and with these, carrying 4 to 6 days' supplies, they advanced through Rhenish Bavaria. Meanwhile advantage was taken of the two lines of railway to push forward supplies, and magazines were established at Homburg, Kaiserslautern, and Neunkirchen, where the troops replenished their stores as they passed.

By the capture of Forbach and Saargemünde on the 6th August, very large stores came into the hands of the Prussians; these, with the supplies sent up from Neunkirchen, &c., carried them on to Metz.

Third Period.—Investment of Metz. No time was lost in repairing the railway, which was made available to Remilly. Here a large depot was formed. Supplies were sent to this point by rail from the great magazines on the Rhine, and afterwards distributed to the troops by the Fuhr Park and Proviant Colonnens, which were now coming up. Later, when the investing force was increased, two depots were formed to relieve the pressure—one for the northern force at Courcelles, and one for the southern at Noveant. The troops were so abundantly supplied, that when the place

capitulated, they were able to feed the French prisoners as well, and also to send food into the town.

Fourth Period.—March on Fontainebleau and Orleans. The distance is about 230 miles, and was marched in 21 days (approximately—different parts of the army took different times). The troops started with all the trains full, and on the march lived entirely by requisition—the trains being three times refilled from the country in the course of the march. The requisitions were managed as follows:—The cavalry advanced-guard lived by hired requisitions and billeting. With it were the officers charged with drawing up the requisitions which were served on the local authorities. A certain time, generally 24 to 48 hours, was specified within which the supplies must be collected and delivered at the points named. The columns meantime marched on; the supplies were loaded on the waggons following in rear, and afterwards issued to the troops in the same manner as from regular magazines.

During the operations round Orleans (25th November to 5th December) the troops, being stationary and concentrated, could not live by requisition. At first they were supplied by the circuitous railway route of Blesme, Chaumont, Fontainebleau, Montargis, Etampes. But the Francs-tireurs made this line impassable, and supplies were then sent by the Blesme-Paris line as far as Lagny, and thence forwarded on country carts a distance of 75 miles to the headquarters of the army.

Fifth Period.—Capture of Orleans and subsequent operations. As soon as Orleans fell, the direct line from Orleans to Paris was put in repair; and though, from want of locomotives (carried off or destroyed by the French), it could only be partially worked, it was used as a tramway. Large open markets were established at Etampes, Orleans, &c.; and by paying ready money and high prices, the Germans succeeded in obtaining sufficient of most supplies for the daily consumption, while magazines of preserved meats (pea-sausage) and reserve stores were formed at Orleans. When the army advanced from Orleans against Chanzy's army, they were mainly supplied from that town; but the exhaustion of the country, the constant fighting, and the bad state of the roads, made the supply extremely difficult; the more so as the distance from Orleans increased, and at one time there seemed danger of having to fall back for supplies. The capture of Le Mans and Conlie, with the large supplies collected

there by the French, relieved them, and from Le Mans they were able to re-establish railway communication with Versailles; and so, with only a small break (between Versailles and Juvisy, where they maintained a large waggon-train), with Germany. The fall of Paris enabled the Prussians to establish direct communication; and for the rest of the operations they were supplied partly by purchase in the country, partly from home. The greater part of the supplies drawn from home were furnished by three great contractors at Coblentz, Mayence, and Worms respectively.

Influence of railways on supply.

The effect of railways in modifying the conditions of war is in nothing so important as in the supply of armies. The enormous transport trains which formerly passed between an army and its base may now be generally in great measure dispensed with, and the connection will be maintained with far greater speed and certainty. An immensely increased area will generally be available for immediate supplies, and particular districts need no longer be subject to exhausting requisitions. The establishment of great magazines at the junction of important lines will be effected with comparative ease, and the operations of army transport in the form of horses and vehicles will be confined to the space between the depots formed on the railways and the front of the army. The sick and wounded, removed with ease and regularity, will no longer encumber the movements of armies to the same extent as before, and the commanders will be lightened of some of their heaviest cares. But the same principles as before must govern the selection of points on which to establish magazines, and the direction of the lines of supply. And as railways are a more vulnerable kind of communication than ordinary roads, the general will be not less solicitous than before to guard his communications from the enterprises of the enemy.

Principles of supply unchanged.

Influence of railways exemplified in Sherman's campaign in Georgia,

In the campaign in Georgia, 1864 (described in Part IV., Chap. VI.), the aid which Sherman derived from his railway was very important. He was operating in a country where the obstacles were numerous and the roads bad; and he was linked to his base by a single line of railway, conquered bit by bit from the enemy, who frequently broke it in retreating. "This main road," he says in his Report, "has been admirably managed, and has supplied this vast army (100,000 men) so that not a man, horse, or mule, has been for a day without food, and with abundant sup-

plies of clothing and ammunition." Not only was the daily supply kept up, but provisions for several weeks were stored at important points of the communications. And throughout the campaign the cavalry on both sides were extensively employed in enterprises against the railway, as the most effectual means of damaging the enemy.

and in the siege of Paris.

In the late campaigns of the Prussian army it was found that, as a general calculation, one train a-day would feed a corps. During the siege of Paris, one railway for some time fed the army of (in round numbers) 200,000, brought up the siege material, and reinforcements averaging 2000 to 3000 men a-day, and even at one time fed Prince Frederick Charles's army also, with very slight aid from the resources of the exhausted theatre of war.

It has been thought necessary to dwell so strongly on this part of the subject, because it is absolutely essential as a foundation to any solid superstructure of military theory, and because its importance is apt to be overlooked by those who form estimates of warlike operations. It is extremely difficult to persuade even intelligent auditors that two armies are not like two fencers in an arena, who may shift their ground to all points of the compass; but rather resemble two swordsmen on a narrow plank which overhangs an abyss, where each has to think not only of giving and parrying thrusts, but of keeping his footing under penalty of destruction. The most unpractised general *feels* this at once on taking a command in a district where his troops are no longer supplied by routine; or, if he does not, the loss of a single meal to his army would sufficiently impress it on him. While distant spectators imagine him to be intent only on striking or parrying a blow, he probably directs a hundred glances, a hundred anxious thoughts, to the communications in his rear, for one that he bestows on his adversary's front. Perhaps no situation is more pitiable than that of a commander who has allowed an enemy to sever his communications. He sees the end of his resources at hand, but not the means to replenish them. Is he to spread his troops to find subsistence for themselves? How then shall they be assembled to meet the enemy? Shall he combine them for a desperate attack? How, if that attack fails, are they to be fed? He will then have no alternative but to make the best terms he can, or see his army dissolve like snow.

Condition of an army whose supplies are intercepted.

Even should there be near him large available stores of food, still if the communication with his base be cut, his fate is merely postponed, for he can neither procure cartridges and balls for his rifles, shot and shell for his cannon, nor recruits for his ranks, to replace the waste of battle. All leaders, then, must feel how stringent are the conditions under which they move, and how considerable must be the prospective advantages for which they will venture, even remotely, to risk the loss of their communications.

Matters to be noted on beginning to study a campaign.

It will be necessary, then, for the student who prepares to follow on the map the operations of a campaign, to begin by ascertaining the bases, or points on both sides on which the armies ultimately relied for the supplies of munitions of war, and for the reinforcements which their respective governments furnished; constantly to note and bear in mind the main roads by which, moving from their bases, they approached each other; and lastly, to mark the positions of the fronts of the armies in all their changes.

Without these preliminaries he cannot hope to acquire a clear idea of the merits, object, or effect of a single movement.

PART II.

THE CONSIDERATIONS WHICH MUST PRECEDE THE OPENING OF A CAMPAIGN.

CHAPTER I.

DIFFERENCES BETWEEN OFFENSIVE AND DEFENSIVE WAR.

BEFORE the commencement of hostilities, a belligerent government which knows its own resources and those of its enemy must decide whether its army shall make or await the attack. And though it has sometimes happened, as in the Italian campaign of 1849 (Novara), that both parties simultaneously advance across the frontier or region which separates them into the territory occupied by the adversary, yet it is far more usual, as might be expected, for one to dispose its forces on the defensive and leave it to its antagonist to commence operations. The considerations which induce a power to choose between a defensive and an offensive attitude may be political, or geographical, or dependent on the relative strength of the belligerents, or on the comparative facilities for assemblement afforded by their respective systems of organisation.

It is for governments to choose between the offensive and defensive.

Reasons for choosing.

At the beginning of the American civil war the Confederates stood on the defensive. That this attitude was not chosen from weakness is proved by the successes they met with in the first operations. In separating from the Union they had declared that they sought only their own independence, not the subjugation of other states. Had they made war in the North, as the Federals made war in Virginia, Louisiana, and

Georgia, they would have falsified the principles for which they took up arms. And it is said that their President prevented them from advancing upon Washington after the victory of Bull Run, lest an invasion of the North should injure the cause of secession. At any rate, sufficient *political* reason may be assigned for their defensive attitude.

See Map No. II.

In 1812 and 1813 Wellington held the fortresses which close the only highroads between Portugal and Spain—namely, Ciudad Rodrigo and Badajos. Thus he possessed an impregnable frontier, and also the means of issuing from it. These *geographical* circumstances gave to him and denied to his adversaries the power of becoming the assailant.

When Denmark in 1864 was assailed by united Germany, it was out of the question that she should do more than defend her own territory as best she might. The fact of her *inferior force* reduced her to the defensive.

In 1870 the French intended to cross the Rhine in an offensive campaign. But the superior readiness, for assemblement and movement, of the German armies, enabled them to take the initiative.

But the reason for introducing this subject is not to discuss the various cases where belligerents have chosen a part, but to point out the conditions which attach respectively to offensive and defensive war.

It is evident that when one belligerent power feels secure behind an unassailable frontier, and holds many issues into the enemy's territory, either by command of the sea or otherwise, it can assemble its forces unknown to its antagonist upon some point selected by itself, from whence to make an irruption into the theatre of war. And if the belligerents be divided only by a frontier line,—a river such as the Rhine or Potomac, or a mountain-range such as the Alps,—the army that passes it will nearly always find itself immensely superior to the force that can immediately interpose. For the defender's army has by the conditions of the defensive been spread so as to guard all possible avenues by which the attack might be made. Thus, in the Waterloo campaign, Wellington and Blucher, being on the defensive, were guarding all the roads from the French frontier into Belgium, along a front of a hundred miles. Napoleon suddenly assembled his whole army upon the centre of their line, and, on first entering Belgium, was greatly superior to any force which the opposing generals could interpose between him and his object, Brussels.

In the American civil war, Richmond being the point aimed at by

the principal Northern Army, the Federals could, behind the screen of the Potomac, concentrate their forces and advance, either from the upper Potomac down the Shenandoah Valley; from Washington along the Orange Railroad to the Rappahannock; from Acquia Creek, by the Fredericksburg and Richmond Railway; by the peninsula between the York and James Rivers, adopting either stream as a base; or from the south side of the James River by Petersburg. They used all of these lines, and frequently advanced at first with numbers greatly superior to those which the Confederates could assemble to oppose them. Thus the great advantage conferred by the offensive is the *Power of Concentration.* And if this advantage be not neutralised by artificial or natural defences, behind which the enemy can, with such forces as may be at hand, retard the advance of the assailant till the whole defensive army be also concentrated, it entails enormous chances of success. For the defensive cordon being ruptured, and the concerted action of the parts of the army lost, the assailant deals his blows right and left on the scattered fragments, till his road to his object is clear.

The advantage of assuming the offensive.

At the outset, then, the assailant, when operating in a country suitable for military movements, and defended only by an army—not by fortifications—has great chances in his favour. Nor does his advantage end with the first onset; for the defender is obliged to follow his lead, and to parry his blows, instead of actively assailing him; and while the invader is executing designs already laid down in their minute particulars, and knows what he is aiming at, and what steps the enemy will probably take to foil him, which, being foreseen, may be provided for, that enemy is operating to a certain extent in the dark, and perhaps neglects even to use what power of concentration he may possess till too late, fearing lest the attack should be a feint. Dislodged from his first positions, and disconcerted by finding that his troops are still scattered in presence of a concentrated enemy, he will probably be too completely absorbed in the essential measure of collecting them in some position between the invader and his object, to devise offensive measures against him. Thus the first success will lead to others, and each will more and more confirm the invader in the possession of the advantage called by military writers *the initiative*—that is, the power of compelling your adversary to make his movements dependent on your own.

Cost of invasion to the invader.

But it is evident that the power which commences operations in this decisive way must not only possess great resources, but must also be able to render them immediately available in the district wherein lies the destined starting-point. And great preparations must be made, not only for the collection of supplies, but for causing them to follow the forward movements of the army. The most abundant stores will be of no avail if there be deficiency of transport. The army, checked in its career, must halt to await its supplies, or spread to gather them from the country. In either case the impulse of the advance will be lost, and the initiative will be seized by a ready adversary.

Advantage of the defensive.

On the other hand, the defensive army, being distributed over a wide area, is much more easily supplied. The resources of each district are probably adequate to maintain the troops occupying it. The necessary stores, instead of being directed at great cost of transport upon some particular focus, are collected at many central points. The roads by which the army is supplied from the rear are numerous, and transport is thus immensely facilitated; and when compelled to retire, it falls back amidst its magazines, and the requirements of transport are more likely to diminish than to increase. Thus, comparing the tax which war levies on belligerents, the greater strain evidently falls at the outset on the power that undertakes offensive operations; and, in modern times, none but a highly-organised system for developing and administering the resources of a state, directed by a paramount and concentrated authority, such as that of a despotic government, can be adequate to begin and maintain them effectually.

If, however, a belligerent has the means to sustain the offensive effectually, it is evidently the least expensive course in the long-run, since decisive success will throw the burden of the war on the conquered territory. Thus Napoleon, in several offensive campaigns, almost without a check, ruined the military power of great monarchies, and imposed on them what terms he pleased. But such rapid successes are exceptional where armies are not very unequal in force, and it is necessary to consider the position of an invader who advances continually from his base against strong opposition.

An army operating on its own territory is not restricted, like the invader, to a single line. It is true that its efforts may all be directed to

cover a single point aimed at by the enemy, as the efforts of the army of Virginia had for their grand object to defend Richmond. But to defend a point it is not necessary to interpose directly between it and the enemy. Provided supplies can be obtained in other directions, the defensive army may assume a front on one side of the line by which the assailant is advancing, and parallel to it; and so long as it is undefeated, it is evident the enemy cannot advance except under penalty of being cut from his base. Thus McClellan advances upon Richmond from the Pamunkey at White House, while the Confederates are spread over a front extending from Richmond to Winchester in the Shenandoah Valley. But the force in the Valley under Jackson, drawing its supplies probably from Lynchburg, advances in an easterly direction upon Hanover; the troops before Richmond join it; the front of the Confederates thus no longer looks north but east; and McClellan, fearing at the next move to be cut from his base, lets go his hold of the Pamunkey and transfers his stores to the James River just in time to save his army from destruction.

Advantages of an army operating in its own country.

See Map No. 8.

This mode of operating, then, which is open to the whole defensive army, is also open to a part of it. A single corps drawing its subsistence for a time from points on the prolongation of the flanks of the general line may operate on either side against the roads which connect the invader with his base. The enemy must protect these roads either by occupying all the avenues by which they could be assailed with adequate forces, in case those avenues are few; or should the exposed points of the line of communication be numerous, then by detaching movable corps to guard it throughout its length, and to protect the convoys. With each step that the invader makes in advance, the difficulties of guarding the line increase in proportion to its length, and the force detached for its protection increases also. Nothing except the disabling of the enemy by heavy defeats can prevent these enterprises against the communications; but the force which can be collected for battle is constantly decreasing with the length of the line, till the defender may find himself, notwithstanding the losses he may have suffered earlier in the campaign, superior in number on the point of collision in the later stages, and, snatching the initiative, may force his adversary to defend himself in retreat.

A notable illustration of the dangers of a long line of communication is furnished by Napoleon's Russian campaign. During his advance upon

Moscow, two Russian corps were moving, the one from Finland, the other from the south of the empire, towards his line of communications. They struck it where it crossed the Beresina, and caused the horrible disasters of that famous retreat.

Impolicy of operations absolutely defensive.

If a defensive army were to restrict itself entirely to parrying blows, the enemy, feeling secure in his communications from the inertness of his opponent, would be enabled to keep his fighting power undiminished by detachments in the rear. To pursue such a course, then, even when very inferior in force, is suicidal in a defender; since a detachment judiciously menacing the enemy's communications may hold in check (or let us say, in military parlance, may *contain*) a much greater number of the enemy, and proportionably diminish the disparity between the main armies. It does not follow, then, that because an army is defending a territory it must confine itself to the defensive; on the contrary, it will best effect its purpose by actively threatening its adversary, and by taking the lead whenever an opportunity offers.

Balance of advantage.

Such are some of the advantages and disadvantages which attach respectively to offensive and defensive warfare, and which mainly depend on the question of magazines and lines communicating with them. The offensive confers, at the outset, the power of concentrating on the flank or centre of the enemy's line of defence, and so turning or breaking it. The defender must either oppose the enemy with an inferior force at first, or abandon territory in order to assemble his forces at some point farther back. On the other hand, offensive war demands great resources, and success itself, if not absolute and decisive, entails fresh difficulties on the invader. And when he has penetrated far within the defender's territory, the situations of the antagonists differ greatly, inasmuch as the army on the offensive is bound to its base, be that base wide or narrow, while the defensive forces may base themselves on any part of their territory which will supply them, and which their front protects.

Subject of this chapter as affected by railways.

As facility of transporting troops and material increases, so the power of concentrating the military resources of an empire on a distant frontier, for entrance on a foreign theatre of war, increases also, and so far his own railways are of great help to an invader. But as he cannot count for subsequent aid on the railways of districts held by the enemy, nor be certain

that the course of events will not make districts where there are no railways the scene of operations, he must be dependent on horses and vehicles for further supplies. Thus we find great preparations made by France for transport in Italy in 1859; and the railways of the Northern States of America did not prevent a vast expenditure of transport animals in the different invasions of the South. Offensive, compared with defensive, war, must still be enormously costly. But the invader will retain and even augment, by means of his railways, the advantage of making a sudden concentrated advance on part of an extended line of defence; and even the combined resources of telegraphs and railways could not avail to meet the first onset under circumstances geographically unfavourable to the defence, such as will be described in subsequent chapters; especially when it is considered that the defender must labour under the same doubts as before in divining whether the attack is real or a feint.

Great preparations still necessary for invasion.

Railways facilitate the first operations of the assailant.

But, on the other hand, the defender, if forced to retreat, will easily destroy for the time the railways in the territory which he is quitting, while preserving the full use of those which he still covers; whereas the assailant must either content himself with the ordinary roads, or pause to repair the railways and to reorganise the means of supply through those channels. Thus the advantages of the initiative will, in such a case, be much more transient than before, and the defender will concentrate on the threatened line with far greater comparative facility.

Reasons why they subsequently favour the defence.

Taking the example of the Waterloo campaign, let us suppose the theatre covered with the railways that now exist there. Napoleon would have concentrated his troops with great ease in the same space within which he assembled them, by means of the railways from Paris, to Lille and Valenciennes, to Maubeuge, and to Philippeville, and the lines connecting them. His advance, no less unforeseen by the Allies than it really was, would have carried him over the Sambre and on Fleurus. But the Prussian corps which halted at Ligny would have been reinforced by the two corps from Ciney and Namur; and Bulow's junction could scarcely have failed, as it actually did, of accomplishment in time for the battle. Thus the Prussians would have effected their concentration with more ease and certainty. But there is no apparent reason why Wellington, still doubting if the enemy's advance were real, and expecting their attack on his right, should have assembled his troops on the 16th so much faster

Influence that railways might have exercised on the Waterloo campaign.

See Maps Nos. 9 and 10.

than he actually did, as to effect more than to check Ney's progress. So far then, the invading force, supposing it on a fair equality in numbers with its adversaries, would have held the advantage. Granting that under such circumstances it should still be victorious at Ligny, the Prussians, however, would now have had the aid of two lines of rail by which to retire behind the Dyle, that of Gembloux-Ottignies-Brussels, and that of Tilly-Ottignies-Wavre. The movement having been contemplated in the plan of campaign, platforms for embarking and disembarking would have been laid, and rolling-stock accumulated, the heavy baggage could have been kept at a distance, and preparations made for supplying the army for a time through Louvain, by means of the line from Liege to that place. Under these circumstances, not only would the roads have been left unencumbered to the troops, but the infantry, at least, of two corps might have been conveyed beyond the Dyle by rail, and the whole army might have passed the stream on the afternoon of the 17th, while part of it would have had ample time to reach the field of Waterloo before night. Napoleon, following Wellington to Waterloo, would therefore have been confronted by the united armies of the Allies.

This, however, is an extreme case, because Belgium is more thickly intersected with railways than any country in Europe. In the campaigns of 1859 and 1866, the more important movements of troops were not effected by rail—the railways are few, and were chiefly used as lines of supply.

Assailant's choice of a line of operation affected by railways.

It would appear from the course of the foregoing argument that an invader (supposing other circumstances to be favourable) should direct his attack on a part of the theatre where railways exercise small influence, since their effect is on the whole in favour of the defender.

Danger of flank movements by rail.

The movement to a flank, of large bodies, by rail, within reach of the enemy, must be especially dangerous, because the troops follow each other in small isolated fractions, and are very defenceless if attacked during their transit. An insignificant detachment may therefore, with little risk to itself, interrupt the movement of a considerable force, and even inflict on it serious injury, by a well-timed and well-directed attack; whereas the compact march of a large body by ordinary roads could only be impeded by a force proportionately great.

CHAPTER II.

THE SELECTION OF AN OBJECT.

What are generally the objects of military operations.

Conquest of territory.

IT is clear that offensive operations cannot be conducted with unity, or directed with precision, unless the object to be gained by them is kept distinctly in view by those who plan and execute the campaign. Where territory easily accessible to the power that assumes the offensive is the subject of dispute, the object will generally be to occupy the country in question. Thus Louis Napoleon rested satisfied with driving the Austrians beyond the Mincio, and adding the country westward of that river to the dominions of Sardinia. But whether in such a case hostilities will terminate with the occupation of the province must depend on the ability of the other belligerent to continue the struggle. Frederick II. began the Silesian wars by seizing Silesia, the primary object of desire; but the conflict that ensued thereupon lasted twenty years. Whenever the *causa belli* is something less definite and tangible than disputed territory, the undeniable superiority of one belligerent and the acquisition of some material guarantee can alone be expected to bring the adversary to terms. That guarantee is generally sought in an enemy's capital. The occupation of its chief city paralyses a civilised country. As all great roads meet there—as it is the centre of trade, the focus of wealth and of civilisation, and the seat of government—its occupation by an enemy is so ruinous that any terms he may impose will generally be less pernicious than his presence.

Occupation of an enemy's capital.

But it is not sufficient to enter the capital unless possession of it can be maintained. In 1757 an Austrian general of hussars entered Berlin and levied a contribution on the city, but being forced to quit it on the

approach of the Prussian King, the incident produced no result. Napoleon held Madrid for four years, and set up his brother as King of Spain, yet the Peninsular war went on in half the provinces of the kingdom. He seized Vienna in 1805, and again in 1809, yet in each case a great subsequent victory was necessary to the overthrow of the enemy's power. The mere possession of the capital, then, is not final so long as the enemy can still make head in the field. It is when the seizure of the capital is coupled with such ascendancy over the defensive armies that they can never hope to retake it, that further resistance is felt to be hopeless, as leading only to national extinction, and that any terms not absolutely unendurable are accepted by the vanquished. Recognising these truths, Napoleon's first efforts were directed to disorganise and ruin the enemy's armies in the field; his next step, when the way was clear, was to seize the capital, and then with his clutch on the heart of the country, with the public opinion of all nations strongly influenced by his commanding attitude, and with the opposing armies disheartened by misfortune, he advanced to deal the stroke that was finally to lay the antagonist power prostrate.

Defeat of the defensive armies also necessary.

Sebastopol an exceptional object.

It sometimes happens that a point may assume an adventitious importance, sufficient to make it the object of a campaign. Sebastopol is a remarkable instance. Situated at the extremity of an obscure and unimportant province, the conquest of which would be no step towards the invasion of Russia, this city, formidable by reason of its docks and arsenals, was, from it proximity to Constantinople, characterised as a standing menace to Turkey, and as such was of sufficient importance to be the object of the vast efforts made in that war by France and England.

Such cases are, however, exceptional, and the general course of a campaign between two great powers is a series of manœuvres and engagements for the possession of the capital or other specially important town of the power that stands on the defensive. And it is evident that the course of the war must vary with the distance of the invader's frontier from the menaced point. If France were to make war upon Italy, the invading army might, as soon as it had secured the passage of the Alps by the Mont Cenis, reach Turin in a single march. But if Austria were at war with Italy, the Italian capital is much more secure from an adversary whose armies must traverse the breadth of North Italy to

attain it. The proximity of Richmond to Washington caused the Federal Government in each campaign in Virginia to base its calculations on the assumption that the operations of a few days, or at most a few weeks, must wrest from its adversary's hold the city from the possession of which it expected such decisive results. And no doubt early in the war, before the capital was fortified, a single crushing defeat sustained by the Confederates in the field would have given Richmond to the Federals. But in cases where a great distance separates the invader from his object, he cannot expect to attain it in a single effort. Thus, if France were at war with Austria, she could scarcely expect, in the most favourable circumstances, to reach Vienna in one campaign. Her first object would be to attain a position in Austrian territory which would form a secure starting-point for a fresh effort. If she were aiming at Vienna through Germany, and a French army could advance between the Danube and the Tyrol, securing the passages of the Danube on the one side and of the mountains on the other, till it could rest on one of the great streams flowing across the space between, such as the Iser or the Inn, it might establish itself there, and collect its strength for a fresh effort in another campaign. If France were at war with Spain, the first object of a French army might be the line of the Ebro, the next the line of the Douro or of the Guadarama mountains—then Madrid and the Tagus. Thus the object of an invading army may be either a point from the possession of which it expects decisive results, or a strong defensive line such as will be an important step towards that point.

Intermediate object found in a defensive line.

CHAPTER III.

THE SELECTION OF A THEATRE OF OPERATIONS, AND LINE BY WHICH TO OPERATE.

WHEN great powers are at war there will generally lie along their extensive frontiers many portions of territory by any of which the belligerents can pass towards their object. In America, Eastern Virginia, Western Virginia, Kentucky, Tennessee, and many points on the seaboard, have been entered by invading armies from the North. French campaigns against Austria have been made in Italy, in the Tyrol, in Suabia, and Bavaria, and along the Mayne. Napoleon made war in Spain by the east side of the Pyrenees in Catalonia and Aragon, and by the west side in Castile, Leon, and Estremadura.

Several alternatives may offer.

Evidently there is much scope for selection among the regions that may become the theatre of war. And each of these regions generally affords many lines by which the invader may aim at his object. The main Federal army of the Potomac in various campaigns advanced, or attempted to advance, upon Richmond by the lines Alexandria-Centreville, Acquia-Fredericksburg, White House, Malvern Hill, and Petersburg. And in aiming at the valley of the Danube, the French have penetrated to it by many different routes. In 1796 Moreau crossed at Kehl, and directed his army by the northern border of the Black Forest upon Ulm. In 1800 the same general advanced from the Swiss portion of the Rhine along the southern skirts of the Black Forest. In 1805 Napoléon crossed the Rhine at Carlsruhe, Spire, and Mannheim, marching on Donauwerth.

When England sends forth an army, the command of the sea enables

her to select as her base of operation any part of a coast from which she can reach the enemy. English armies operated during the Peninsular war from Mondego Bay, from Lisbon, from the coast of Andalucia, from parts of the eastern coast, and from harbours in the Bay of Biscay. At the outset of the Russian war in 1854, the Allies landed at Varna for operation on the Danube; later, they passed the Black Sea for the campaign of the Crimea. If it is necessary for great Continental nations to make a wise choice between many alternatives when considering what their territorial line shall be, much more is it incumbent upon England to summon her most sagacious chiefs to council before committing herself to one of the numerous avenues which her maritime ascendancy will offer for her choice.

Considerations for selection of a theatre.

Many considerations will commonly enter into this question of selection. The convenience and security of the base—the position of the enemy's forces—the facilities, in the shape of good and practicable roads, for reaching the object—the proximity to the object—the fitness of the topographical character of the theatre to the army destined to operate in it,—will all be elements in the problem. If that portion of the invader's frontier which is contiguous to the territory occupied by the main army of the defensive power be impregnable, that will be good reason for making some other region the theatre of war. If, on the contrary, the invader's frontier be extensive and open, it will generally be expedient for him to base himself on that portion of it which will be covered from a counter-invasion by his advance. Thus the most vulnerable part of the French frontier in 1815 was opposite Belgium; and had Napoleon crossed the Rhenish or Alpine boundary, making Germany or Italy the theatre of war, Blucher and Wellington could have marched on Paris; whereas, by advancing into Belgium, and trusting to the strong natural boundaries to keep the enemy from invading France at other points, the Emperor covered with his army, so long as it remained undefeated, the otherwise exposed part of his territory.

The power meditating the offensive must also consider the fitness of the theatre to its own army. If that army have a preponderating strength in cavalry, an open country will suit it best; if infantry be its chief reliance, a hilly or wooded region, which may neutralise the enemy's superiority in the other arms; if artillery, good roads and positions which

command sufficient expanse of country, will be indispensable to its most effective action. To determine this point a broad and general survey will suffice. But a more intimate acquaintance with the topography of the theatre, and a knowledge of strategy, are required, in order to determine the further questions of what points in that theatre are most important as steps towards the object, and what are the chances of gaining possession of them.

Example of selection in Marengo campaign.

As an example of the way in which, after admitting all these various elements of the question of selecting a theatre, a balance may be struck and a decision formed, let us take the case of the campaign of Marengo.

See Map No. 5.

While Moreau operated from the Rhine on the Danube, Napoleon was to attack the Austrians in Italy. They were besieging a French garrison in Genoa; they had advanced and occupied the passes of the Alps on the Italian side from Lake Maggiore down to the junction of the Apennines; and they had a considerable force south of the Apennines endeavouring to force their way into France across the Var, which river was defended with inferior numbers by Suchet. Thus the Austrian front extended along the whole Italian frontier of France.

Napoleon's objects were to deliver the besieged garrison of Genoa, and to strike a decisive blow against the Austrians in Piedmont and Lombardy.

The Austrian lines of communication with their base and of retreat led from the various points of their front to Mantua and Verona, and, owing to the geographical features of North Italy, all the roads by which they could gain those cities were compressed laterally into the space between Milan and Piacenza. If Napoleon could throw his army across that space, he would effect a double object—he would cut the communications of the enemy, and, by forcing them to concentrate for action, would deliver Genoa.

The object of his campaign, then, was the space from Milan to Piacenza; and his first task was to choose the line by which to advance to it.

North Italy is divided into three unequal portions by the Po and the Apennines. And as it would be manifestly unwise to advance on both sides of either of these obstacles, Napoleon had to determine which of the three intervals of space he would operate in.

The space between the Apennines and the sea being narrow, was favourable to an inferior force; and Napoleon's army was inferior in number to the Austrian. The region was mountainous, and therefore the French army, strongest in its infantry, would there meet the enemy, whose great superiority lay in cavalry and artillery, under the most favourable conditions. But successes here must be slow; the Austrians, when pushed back, would constantly be reinforced through the passes of the Apennines; and, in retiring, they would still cover the siege of Genoa. If beaten they would be driven along their proper line of retreat to the shelter of their fortresses on the Mincio and Adige.

In the space between the Apennines and the Po three fortresses existed, those of Turin, Coni, and Alessandria, each a stumbling-block in the way of an advancing army. This, too, was the centre of the Austrian line, and the centre of a line can manifestly be reinforced by the rest more easily than either extremity. The fortresses would bar the way to the French long enough to give the Austrians time to concentrate. By holding the passes of the Apennines they would prevent the French force on the Var from advancing to the relief of Genoa; and, if defeated, they would still, in falling back, cover the siege, and would, as in the former case, retire on their proper line of retreat.

In both these regions, then, the Austrian army would interpose between Napoleon and his object, and, in the second case, with great advantages for opposing his advance. Moreover, it was a part of his plan that his insufficient numbers should be recruited by a detachment sent from Moreau's army on the Danube. The road from thence to the French frontier of Italy was long and difficult, and the junction of this co-operative force could not be hoped for in time to be effective.

In the remaining space between Switzerland and the Po, the Austrians, besides being far weaker in numbers than at any other part of their line, were most widely extended; and no fortresses existed here. This space, therefore, in which lay the most direct road to Milan, offered the most favourable conditions; and once at Milan, the main army might be joined by the corps sent by Moreau, which, crossing Switzerland, would descend the St Gothard Pass to Bellinzona. But this region was also by far the most difficult of attainment of the three, sheltered as it was by the Alps, the rugged passes of which, though but weakly guarded, seemed to forbid

the passage of an army. The other parts of the frontier were crossed by the roads which formed the regular communications between France and Italy, while in this northern corner the high mountains, covered with perpetual snow, and passable only by steep and perilous tracks, seemed an insurmountable barrier. But beyond this obstacle Napoleon beheld his object ready for his grasp. Disregarding difficulties, he pushed his troops over the Alps, and was at Milan almost before the Austrians knew of his presence in Italy. Joined there by the detachment from the army of the Rhine, he guarded the passes of the Ticino with half his forces facing westward, and with the rest crossed the Po and occupied the road to Piacenza. He was too late to save Genoa, which had been forced by famine to capitulate; but, on the other hand, the Austrians, unwilling to abandon the siege when on the verge of success, delayed the retreat of the investing force, which, by a more rapid march, might have held the south bank of the Po against the French, and secured the road there by which to regain Mantua. Thus the capture of Genoa only assured the defeat of the Austrians by depriving them of their one chance of escape. Cut from their line, they were forced to fight at Marengo with their faces to their proper rear, and, when defeated, nothing remained for them but to capitulate.

Political elements in selection.

But the selection of a line is not decided always on military grounds alone. Political considerations frequently complicate the problem. That which is of most importance is the effect which the war may have on the policy of nations whose territories are between, or adjacent to, the frontiers of the belligerents. In the wars of the French Revolution, Austrian armies were sometimes forced to hold the line of the Rhine, when good military reasons would have dictated a different course, because of the effect which would certainly be produced on the German powers bordering on the river—Baden, Wirtemberg, &c.—by leaving them uncovered. In the campaign of Jena, the Prussian army would have found the Elbe a secure and convenient line of defence, but Saxony and Hesse-Cassel would be thus left unprotected, whereas Prussia, by covering their territories with her army, would secure their co-operation and add their contingents to her numerical force. For that reason she was induced to take up a line which was the cause of all her disasters. At the outset of the late war with Russia, the first design of the Allies was to engage their armies

in the defence of Turkey south of the Danube; and when the Turks, single-handed, beat off the invaders, it seemed most natural that all the Allied forces should combine to carry the war beyond the Danube. But in such a case it became of primary importance to consider what side Austria would take, because her position on the flank of what would then be the theatre of war gave her the power of decisive action. Her policy was a question for the Allied Governments to consider, and the result of their deliberations was to transfer their armies to the Crimea.

Selection of theatre should rest with the government,

Demanding, then, as this question does, diplomatic as well as military sagacity, it will be most effectually solved when the chief of the State combines the characters of ruler and soldier; and it is not the least of the advantages which a military autocrat, like Frederick or Napoleon, possesses in war, that all the circumstances are apprehended by a single mind, and the decision has all the force and coherence which unity imparts. But when generals are commissioned by their governments to execute warlike enterprises, the questions which depend chiefly on diplomacy must of necessity be solved by statesmen, who, having thus given to the campaign its original impulse and direction, will do well to leave the formation and execution of the military plan in the hands of the general.

execution of the campaign with the general.

PART III.

OPERATIONS ILLUSTRATING THE RELATIONS BETWEEN THE FRONTS OF OPPOSING ARMIES AND THEIR RESPECTIVE LINES OF COMMUNICATION WITH THEIR BASES.

CHAPTER I.

OBSERVATIONS ON THE MODE OF TREATING THE SUBJECT OF THE WORK.

General object of strategy.

THE Theatre of War is the province of Strategy—the Field of Battle is the province of Tactics. All operations must ultimately rely for success upon power of fighting; for it is of no avail to conduct an army into situations which it cannot maintain in battle. It is the object of Strategy so to direct the movements of an army, that when decisive collisions occur it shall encounter the enemy with increased relative advantage. If two armies advance towards each other till they meet, both equally covering their own communications, and equally ready to concentrate for action, it is evident that strategy has no share in the result; for all that has been done is to bring them face to face, and leave it to force or tactical skill to decide the issue. But when the movements of one of two armies have been so directed as to increase the chances in its favour, by forcing the enemy either to engage at a disadvantage, or to abandon territory

Kinds of advantage to be attained by strategy.

under penalty of worse disaster, there is proof of a power which differs from the mere ability to fight. The purely military advantages to be attained by strategical operations are of two kinds: 1st, *The Probabilities of Victory;* 2d, *The Consequences of Victory.* Two armies may incur equal risk of disaster in case of defeat, but the chances of victory may be greatly in favour of one. Thus, of armies whose communications are equally secure, one may be scattered while the other is concentrated within striking distance, and the first may thus be defeated piecemeal. Or the probabilities of victory may be evenly balanced, while the consequences of defeat may be much more disastrous to one than the other. For instance, if a French army have placed itself between an Austrian army and its base without relinquishing its own communications, and the Austrian has no alternative but to break through, in the battle which ensues the chances of victory may be evenly balanced (in fact at Marengo, a case in point, the probabilities of victory were on the side of the Austrians); but defeat will be to the French army merely defeat—to the Austrian it will be ruin. A general may succeed in combining on his own side both these kinds of advantage, and the triumph of strategy is complete when the commander of one of two originally equal forces succeeds, by the combinations of the campaign, in bringing his adversary's army into a position where the chances of victory are greatly against it, and where defeat will entail disasters beyond the loss of the battle.

Particular objects of strategical movements.

In the following chapters strategical movements will be considered as having the following objects:—1st, *To menace or assail the enemy's communications with his base;* 2d, *To destroy the coherence and concerted action of his army, by breaking the communications which connect the parts;* 3d, *To effect superior concentrations on particular points.* And as, whichever mode a general may adopt, it is essential that he should always maintain his own communications with his base, so the part of the subject first discussed will be the circumstances by which the security of those communications will be specially affected.

It is evident to the least instructed that the presence of rivers, mountains, and other obstacles in the theatre of war, must exercise a powerful modifying influence on the operations. A part of the work is therefore devoted to the discussion of OBSTACLES—the nature of the difficulties

they interpose, and their effect in various circumstances. It may be said, that as no theatre of war can well be devoid of such features, this chapter should have preceded the others; but it has been judged otherwise, for these reasons: that they greatly complicate and increase the difficulty of appreciating campaigns, and that campaigns illustrative of the broader principles of strategy may be found which are intelligible without reference to the obstacles; whereas, for the appreciation of obstacles, it is quite necessary to have an idea of the relations between the fronts of hostile armies and their respective lines of communication. These and other relations are therefore discussed first in the simplest form practicable—then the obstacles; and the student ought after that to be prepared to enter on the discussion of any strategical operation whatsoever.

Military problems involving obstacles are deferred.

Battles, besides being incidents which may occur at any period of a campaign, bear also in their objects and manœuvres a close relation to the operations of strategy; and in a course of lectures on military art it is well to treat of both subjects simultaneously; but in this work it has been thought better to keep them separate, and to give strategy the precedence. In the strategical chapters, therefore, battles will be adverted to merely as incidents in the campaign.

Battles.

The plan of arrangement followed in the narrative of campaigns is one that is recommended to all students of strategy. The circumstances which it is necessary to know in order to understand the position of the opposing armies at the outset of a campaign, are first briefly recounted; then the fronts, the bases, and the lines connecting them are defined; next the plans of the generals on each side are discussed. Then the operations of the campaign are related in the simplest and most methodical form, without comment; for not only is the course of the operations rendered clearer by keeping the commentary separate, but the student is thus at liberty to exercise his own faculties in accounting for the movements. Lastly, the situation at each stage is commented on; and as every campaign furnishes examples of many points of war besides that which it has been specially selected to illustrate, these are noted and discussed. Deductions, which seem to be of particularly wide application, are presented in a definite form for future use; but nothing is offered in that shape, unless it is so far supported by fact and argument

Plan followed in narrating campaigns.

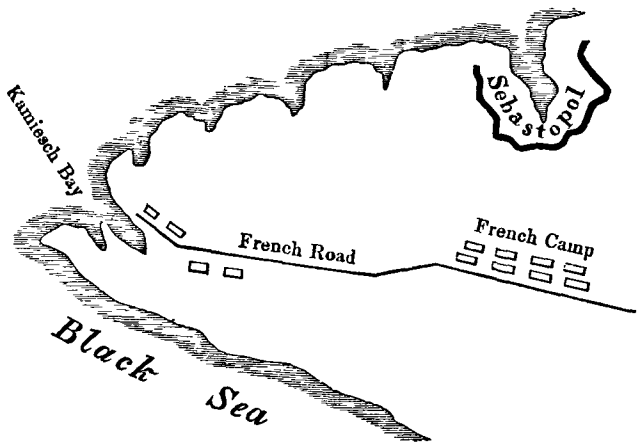
as to have a title to the reader's assent. Nothing is more common than to find in writings on military matters reference to "the rules of war," and assertions such as that some general "violated every principle of war;" or that some other general owed his success to "knowing when to dispense with the rules of war." It would be difficult to say what these rules are, or in what code they are embodied; and an inquirer who is somewhat puzzled, perhaps, to understand how the highest proficiency can be displayed in a science by defiance of its principles, had better resolve to base his own conclusions upon fact and reason alone, when he will probably discover that such criticisms have only very vague ideas for their foundation.

CHAPTER II.

THE EFFECT OF OPERATING ON A FRONT PARALLEL TO THE LINE OF COMMUNICATION WITH THE BASE.

REVERTING to the account given in Chapter IV. of the positions of the Austrian and French armies at Solferino, we shall see that their fronts were parallel to each other, and that each covered its own lines of communication with the base. Had the French been defeated they would have retired on the roads by which they had advanced, and from which it was not in the power of the Austrians to sever them; and when the Austrians were defeated they retired to the other side of the Mincio on the roads by which they had quitted the river. There was no exhibition on either side of strategical art; none of the movements on either side since the battle of Magenta had altered the chances of success; and the result was altogether due to tactics. To find illustrations of the power of strategy to affect an army through its communications, we must seek elsewhere than in cases where the fronts of the armies are perpendicular to their lines of retreat.

For convenience of supply nothing can be better than a road which, coming direct from the base, passes along the rear of the army throughout its length. The harbour of Kamiesch, in the Crimea, was the base of the French army, from whence a road was made traversing the rear of the camp. Thus depots might be created at any point, and every part of the army was equally near to its supplies. Had the army changed front to the right upon its centre so as to be perpendicularly across the road, the wings would no longer have been supplied with the same facility as before.



So far, then, it is convenient for an army to operate parallel to its communications with the base. But is it *safe?* Is it a matter of indifference whether the front of an army is perpendicular or parallel to the line in question?

The campaign of Novara, in 1849, between the Sardinians, under their king Charles Albert, and the Austrians, under Marshal Radetzky, has been selected to illustrate this matter, because it was very brief, is clear as an example, and free from any difficulties which a complicated theatre of war would entail at this stage on the reader, since it took place in the space between the Sesia and Ticino, which was equally open to the movements on both sides, for the Terdoppio and Agogna streams are inconsiderable obstacles.

CAMPAIGN OF NOVARA, 1849.

When hostilities (suspended after the campaign of 1848) recommenced, the opposing armies faced each other on the Ticino, a deep swift stream about 70 yards wide. On the 12th March the Sardinians gave notice that the armistice then existing was to terminate on the 20th of the same month. See Map No. 12.

Their army in the space which was the theatre of operations formed six divisions, with two brigades detached. The King was the nominal leader, but the real command was vested in a Pole named Chzarnowsky.

Charles Albert had invited several of the best-known French generals, Bedeau, Lamoricière, Changarnier, and Bugeaud, to take the command, but all had declined. Chzarnowsky was supposed to have been recommended from Paris. He had served on the Russian staff against the Turks in 1829, and had taken part in the Polish insurrection of 1831, rising from the rank of lieutenant-colonel to the command of a division in a few months. There was nothing apparent in his career to justify the slight thus cast on the claims and abilities of the Sardinian generals, who now commanded divisions under his orders as follows:—

Disposition of the Sardinians.

1st division,	Durando,		Vespolate and Vigevano.
2d, ,,	Bes,		Cerano and Casalnuovo.
3d, ,,	Perrone,		Romentino and Galliate.
4th, ,,	Duke of Genoa,		Trecate and Buffalora.
5th, ,,	Ramorino,		La Cava.
Reserve,	Duke of Savoy,		Near Novara on the Mortara Road.

Buffalora to Pavia, 28.*

Of the two detached brigades, one under Colonel Belvedere was near Piacenza, guarding the right bank of the Po from an advance in that direction. The other under General Solaroli was at Oleggio, on the left of the Sardinian line. As the operations were all on the left bank of the Po, Belvedere's brigade may be left out of the reckoning. In all, the Sardinians on the Ticino numbered about 65,000 men and 140 guns.

Sardinian base and lines of communication.

The point to which all the operations of the Sardinians must specially refer was their capital, Turin. It no doubt formed their real base of supply, though they might also depend in a secondary degree on Alessandria. The roads from their front to Turin were—

Vigevano-Mortara-Casale.
Trecate-Novara-Vercelli.

The fifth division could communicate either with Mortara through Garlasco, or with Alessandria by Casatisma across the Po.

Vercelli to Novara, 14. Casale to Mortara, 18.

We may conclude that their immediate depots of supply were in Mortara and Novara; and that these were in part filled from the produce of the surrounding district; that there were more permanent depots with reserves of ammunition in Vercelli and Casale, which were at once at a convenient distance, and protected by the Sesia; and that the great magazines were at Alessandria and Turin.

* All distances are given in English miles.

Austrian front, base, and communications. (See Map No. 5.)

The Austrian army, commanded by Marshal Radetzky, who had been a colonel on the staff at the battle of Marengo forty-nine years before, extended along the other bank of the Ticino from Turbigo on the right to Pavia on the left. Its base was the space between the Mincio and Adige guarded by the fortresses of the Quadrilateral. The roads between the front and base were

Milan-Lodi, Pavia-Lodi } Lonato-Peschiera.
Pavia-Pizzighitone-Cremona-Mantua.

A great road leads from Milan to Peschiera by Brescia, but the populations of the towns there were very disaffected; and ten years afterwards the Austrians did not use it in retreating from Magenta. It is therefore probable that Radetzky did not rely on it.

For the immediate supply of his right he would depend on Milan; for that of his left on Pavia; and Crema, Pizzighitone, and Cremona would form an intermediate line of magazines.

Nature of the theatre.

The country between the Sesia and Ticino is much cut up with canals of irrigation; and the mulberry plantations, where vines are trained in festoons from the trees, and the deep soft rice-fields, are serious obstacles to the movements of troops, especially of cavalry, who can rarely find there ground on which to act in a body; hence the columns moving there must chiefly keep the roads, which are bordered with wet ditches, and often pass along causeways raised above the swampy fields.

Plans of campaign.

By the Sardinian leaders it was considered an object of the first importance to advance on Milan and raise an insurrection there. It was expected that as soon as the advance on the capital should be begun, Radetzky, as in the previous year, would fall back at once towards his base. Should he halt on the Adda, he was to be attacked at Lodi. But it was considered more probable that he would retire beyond the Mincio.

On the Piedmontese left, Solaroli's brigade was to operate against the extreme Austrian right in the hilly country about Como and Varese; much as Garibaldi's corps acted in 1859. Five divisions were to move on Milan; the remaining one (the 5th) at La Cava, was to seize if possible the island of the Ticino opposite Pavia; if all went well, it was to push on and attack Pavia itself.

It was expected that these operations would be executed against an enemy who would either retreat or stand on the defensive. There was a third alternative—namely, that he would assume the offensive. This, though not expected, was provided for in the Piedmontese plan. Should the enemy advance by the line Milan-Novara, he would be met by the mass of the Piedmontese army; should he cross from Pavia, the 5th division was to fall back either on San Nazzaro or on Mortara, according to the direction of the attack, retarding the Austrian march till Chzarnowsky, directing his other divisions down the right bank of the Ticino, should attack the Austrians in the difficult intersected country in the angle of the two rivers, while some of their forces might still be on the other bank.

Radetzky, confident in the superiority of his troops, had resolved, on his part, on an offensive campaign of the most decisive kind. To this end he had begun before the termination of the armistice to assemble his army (5 corps in all, numbering 70,000 men and 180 guns) about San Angiolo, on the road between Pavia and Lodi; 4000 men being left to garrison Milan and prevent an insurrection in the city. No care was taken to conceal the intention of an advance on Turin, for it was announced in the proclamations of the Marshal; and no provision was made for converting the offensive into a defensive campaign (as in the case of the enemy), for, except the garrison of Milan, and some detachments left to watch the passages of the Ticino, the whole army was directed to concentrate on San Angiolo,—the point of passage, however, being kept secret. There are passages over the river at Sesto Calende, Oleggio, Turbigo, San Martino, Vigevano, Beregardo, and Pavia. Radetzky meant the main body to pass at Pavia. The detachments along the Ticino moving down the bank were to cross at Beregardo. The march was to be direct on Mortara; on arriving there, the many roads of which the town is the centre would enable Radetzky to adapt his movements to circumstances, whether against the Sardinian capital or the Sardinian army.

Passages of the Ticino.

Both armies, then, were about, simultaneously, to assume the offensive, and to that end each was massed on its left on one of the two great roads to Turin.

20th March.—At noon the Austrians, who had thrown two bridges of boats over the Ticino below the permanent bridge of Pavia, began to pass

to the right bank. It was to provide for such a movement that Ramorino had received his instructions. But that general was no longer opposite Pavia. Intelligence had reached him the day before that the Austrians were passing to the right bank of the Po to attack Alessandria, and that any attempt made by the enemy at the bridge of Pavia would be only a feint. Leaving three battalions on the Ticino, he had carried the remainder across the Po to Casatisma to oppose the movement of the enemy. Such was his defence of his breach of orders; but it did not avail—the court-martial which judged his offence condemned him to be shot.

"Right" (or "left") bank—always looking *down* the stream.

At the approach of the Austrians, two of the battalions left by Ramorino followed him across the Po; the third retired on Mortara. The Austrians posted a brigade of the 4th corps at the bridge of the Po to prevent Ramorino from recrossing. Their other movements were as follows:—

Austrian movements.

The rest of the 4th corps marched on	La Cava.
The 2d corps marched on . .	Zerbolo.
,, 3d ,, ,, . .	Gropello.
,, 1st ,, ,, . .	Zerbolo.

Pavia to Zerbolo and Gropello, 8.

Reserve opposite Pavia, with a brigade at Pavia on the left bank in case of an attack on the Austrian communications on that side of the Ticino.

The detachments which had guarded the length of the river assembled for passage (two brigades) at Beregardo.

The same day and hour the Duke of Genoa's division, led by the King, crossed the Ticino at San Martino and the canal at Buffalora, and halted at Magenta. Had Chzarnowsky found an Austrian rear-guard on the Milan road he would doubtless have briskly attacked it. But he found no enemy on that road; and as was natural in a general new to command and doubtful of his own plan, he grew nervous and halted for information.

The intelligence which had probably reached him of the concentration of the Austrians on San Angiolo was calculated to confirm him in the belief, which that operation was designed to inspire, that the enemy was retreating beyond the Adda. Fearing to advance, yet unwilling to retrace his steps without positive reason, he suspended his forward movement till at ten that night he heard of the events that had occurred on his right. He immediately ordered—

Novara to Vigevano, 18.

1st division — reserve	through Mortara on Trumello.
2d division 3d ,, 4th ,,	on Vigevano.

Sardinian movements as ordered,

The 2d division from Cerano, which was nearest to Vigevano, would arrive first, and was to push an advanced-guard to San Siro. Thus the right wing would bar Radetzky's path on Mortara, while the left wing would be ready to fall on his flank. Should this cause the Austrians to halt for concentration during the 21st, Chzarnowsky proposed to extend his wings inward till they touched, and so form line of battle from Trumello on the right to the Ticino on the left, and then to attack the enemy, whose columns were moving in a close country where they would be unable to deploy.

but imperfectly executed.

21*st March*.—The 1st division, for some unexplained reason, halted just beyond Mortara.

The reserve was deployed on the Casale road on the western side of Mortara, apparently to guard the line Mortara-Casale from an attack by the San Giorgio road.

On the left, the advanced-guard of the 2d division met at San Siro, at two in the afternoon, the advanced-guard of the 2d corps marching on Gambolo, and was pushed back on Sforzesca. The brigades from Beregardo reinforced the Austrian advanced-guard. A Sardinian brigade came up on the other side, and an action ensued in which both claimed the advantage. The 3d and 4th Sardinian divisions did not arrive at Vigevano till evening.

Austrian movements as ordered.

Radetzky's orders for the 21st were these:—

2d corps from Zerbolo by Gambolo, through Mortara.
1st ,, from Zerbolo by Gambolo, on Mortara.
3d ,, from Gropello by Trumello, to occupy Mortara.
4th ,, from La Cava by San Nazzaro and San Giorgio, on the left of Mortara.
Reserve by Garlasco on the rear of Mortara.

Gropello to Mortara, 14. La Cava to S. Giorgio, 21.

Austrian movements as executed.

In executing these movements, the head of the Austrian 2d corps, leading, came upon Durando outside Mortara. The Sardinian division was badly posted, and the reserve was forced to file through the narrow streets in order to reinforce it. Before that tortuous movement could

be accomplished, Durando was defeated, and the Austrian corps pushing on, drove both divisions out of Mortara on the roads of Robbio and Novara.

The real positions of the Austrian corps on the night of the 21st were these :—

Two brigades from Beregardo near Sforzesca.
2d corps in Mortara.
1st ,, ,, Gambolo.
3d ,, ,, Trumello.
4th ,, ,, San Giorgio.
Reserve, Gropello.

That night Chzarnowsky, hearing of the disaster to his right wing, resolved to concentrate on Novara.

22*d*.—Sardinians concentrating on Novara.

Austrian 2d corps towards Vespolate.
The rest closed on Mortara.

23*d*.—The Sardinian wings had met and taken position outside Novara in the angle between the Trecate and Vercelli roads.

Austrian 2d corps, followed at intervals by the 3d and reserve, on Novara. Mortara to Novara, 16.
1st corps by Robbio on Borgo Vercelli. Mortara to Borgo Vercelli, 18.
4th ,, remained at Mortara.

The Austrian 2d corps attacked on arriving near the enemy. It fought singly with loss till supported successively by the 3d, the reserve, and the 4th corps—the 1st being too far off to take part in the action. The Sardinians were defeated at all points, and pushed off the Vercelli road; masses deserted during the night; and next morning the Austrians, advancing through Novara, pursued along the roads of Momo and Oleggio. The same night the King abdicated, and Victor Emmanuel, the new sovereign, concluded an armistice with the victor as the preliminary of peace. Results of the Austrian operations.

COMMENTS.

At the outset the two armies, by the positions of their fronts on the Ticino, covered the two lines which they respectively possessed to their bases. What, then, were the circumstances which so completely changed the relations of their fronts and lines in favour of the Austrians?

Pavia to Mortara, 23.

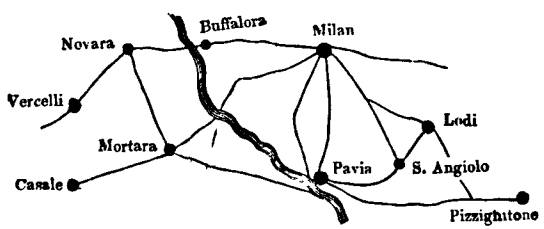
Each army concentrated on its own left, the Austrians on the Pavia-Mortara line, the Sardinians on that of Novara-Milan. The aim of Radetzky was Mortara, the object of Chzarnowsky was Milan, and from their points of concentration they would have about the same distance to traverse to their objects.

But let us suppose that each had executed his design; that the Austrians had concentrated at Mortara at the same time as the Sardinians concentrated at Milan. The Austrians would have actually been on one of the two Sardinian lines of communication, namely, that of Mortara-Casale-Turin. And they would be within a single march of the second and last line, that of Novara-Vercelli-Turin.

The Ticino to Milan, 20. Milan to Lodi or S. Angiolo, 20.

On the other hand, the Sardinians would still be a long march from the first Austrian line at Lodi, and a considerable distance from the second Austrian line of Pizzighitone.

Thus the circumstances were not reciprocal. If Chzarnowsky were to continue to advance, his own communications would be absolutely lost, while he was still only aiming at the enemy's. In fact, in the first movement, by which each uncovered to a certain extent one line to concentrate on the other, the Sardinian communications were compromised in far greater degree than those of the Austrians, and this was owing to the direction of the lines of communication through the theatre of war. To render this more easily intelligible, an abstract of the essential features of the situation is given in the accompanying sketch; and students will find it useful to make such in other cases, whenever they have ascertained what the essential features are.



The following points are to be specially noted with reference to the movement of each army against the communications of the other:—

1st. Its comparative *directness.* The Austrians had the shortest possible line from Pavia to Mortara. The Sardinians, on the contrary, must perform a long circuit through Milan to Lodi or S. Angiolo.

2d. Its comparative *security.* To secure their flank the Austrians needed only to guard the small angle between the river and the Pavia-Mortara road, in which there was only one avenue whereby they could be attacked, namely, that of Vigevano. On the other hand, in order to secure the Sardinian flank from an attack from Pavia, it would have been necessary to guard the wide angle, of which Milan is the apex, and the roads from thence to Lodi and Buffalora are the sides.

The Polish general did what generals will always be found to do under such circumstances—he abandoned his designs upon his enemy's communications in order to secure his own. To this end the new front on which he wished to place his army was that of Vigevano-Trumello. By so doing he would cover both his lines so long as he could maintain his front. And if his Right Wing could maintain itself between Trumello and Mortara, while his Left defeated the Right Wing of the enemy, he would actually sever the Austrian communications. If his Right held its ground while his Left was defeated, still the disaster would not be fatal, since the beaten Wing could make good its retreat to the Sesia, while the Right held Mortara, and they might reunite behind the river. But the most disastrous circumstance would be that the Right Wing should be defeated, whether the Left did or did not hold its ground; for, by gaining Mortara the enemy would be nearer to the last line of retreat at Vercelli than the Left Wing was. In fact, the Left Wing would increase its peril by maintaining its position.

The great object of each general must then be that his right should not be defeated while his left should be successful.

Let us see what steps Radetzky took to secure this result.

Radetzky's movements explained.

It was essential to carry his army as soon as possible to the other bank of the river, lest a part should be attacked while isolated. To this end he threw two additional bridges. Between 50,000 and 60,000 men occupied about fourteen hours in crossing. Had they passed by one bridge the operation would have occupied nearly two days. The detachments crossed at Beregardo: 1st, because that was a point which they would reach sooner than Pavia; 2d, because it gave an additional point

Beregardo to Pavia, 9.

of passage; 3d, because they would there be within easy reach of aid from the main army. And they to a certain extent covered the army by menacing the flank of an enemy attacking from Vigevano.

To hasten the advance it was necessary to use all the roads available, but it was also necessary to keep the columns that moved on them ready to concentrate for battle. Two corps, therefore, moved by the line Zerbolo-Gambolo, and two by Pavia-Mortara. Had all moved by the latter they would have been too scattered to form an effective line of battle, and should the enemy pierce any point of it, say Garlasco, all the troops beyond would be cut off. As it was, it might be expected that the two corps and the two brigades on the right would be able to oppose the enemy on the side of Vigevano till the other two from Gropello, Garlasco, and Trumello could come up, supposing the enemy were to throw his whole weight on that side; and, if defeated in a battle there, the Austrians could retreat on Pavia by Gropello and Zerbolo. There was little risk while the four corps were within supporting distance on the two roads.

Garlasco to Sforzesca, 5.

But the march on Mortara was further hastened by moving one corps by the line San Nazzaro-San Giorgio. That movement, however, entailed a certain risk, for the corps would be too distant to take part in an action between Garlasco and Vigevano; and should the main army, thus weakened by a fifth, be defeated, the corps would be cut off. On the other hand, its advance threatened the line Mortara-Casale; and should the Sardinians advance to Trumello it would be in a position to cut them from Mortara. This movement, then, probably caused both Durando's halt, and the bad disposition of the reserve, on the 21st.

Lomello to Sforzesca, 14.

The arrangements, then, so far, were very well suited to the object. The advance on Mortara could be rapidly continued, and the right flank was strong against attack. And on the 21st, after the 2d corps had reached Mortara and was engaged there, and the 1st corps had followed it to Gambolo, still the Sardinian left wing would have found it difficult to penetrate to the Pavia-Mortara road. For in first line it would have encountered the 1st corps at Gambolo, and the brigades at San Siro; in second line the 3d corps and reserve; in all, 40,000 men. If it had advanced on Trumello, its way would have been barred by the first line, supported, during the engagement, by the second; if it had advanced on Garlasco it would have been opposed at first by the brigades, which

would have been supported by the second line, while the 1st corps would fall on its flank. Chzarnowsky could scarcely have hoped to break through these 40,000 men, with the 30,000 which he might have assembled at Vigevano on the afternoon of the 21st.

Nevertheless, as will presently be shown, Radetzky's dispositions for the security of his advance were not perfect; because he might, in his orders for the 21st, have given a direction to some of the troops on his right which would have been equally good in the actual, and far better in the possible circumstances.

We have seen that the line which the Sardinians really occupied was that of Vigevano-Mortara. This line is parallel to the line Novara-Vercelli. And when the Austrians had driven the right wing from Mortara, their left was nearer to the Vercelli road than the Sardinian left. Using reasonable speed, the Austrians would reach it first. Thus the fact that the front of the Sardinians was considerably in advance of their last line of retreat did not prevent, but only postponed, the catastrophe.

It was impossible for Chzarnowsky, after he knew of the loss of Mortara, to continue the offensive movement of his left wing. For not only must he contend with the Austrians in his front, but the corps at Mortara might turn back and hem him in against the Ticino. But a manœuvre that really was open to a general of unusual readiness and promptitude was to move the left wing from Vigevano direct on Mortara, and break through the Austrian corps there, thus balancing the amount of disaster, and recovering the communications with Casale. And this design, though scarcely to be expected from an inexperienced leader, was said to have been actually entertained by Chzarnowsky. At all events the attempt was practicable, and though the boldest, it was also the most prudent course; and as such it should have been foreseen and provided for in the plans of Radetzky. Now his right wing at San Siro, or Sforzesca, did not guard his left from such an attempt. But supposing his right wing in *Vigevano*, it is at once seen how much additional security is conferred upon his position. His wings would thus have been in connection by a straight and good road—he would have precluded the enemy from attempting any but front attacks; and he would have been equally ready to concentrate on Mortara. His 1st corps, therefore, instead of continuing to move on Gambolo during the 21st, leaving it to the

Mortara to Vigevano, 8.

advanced-guard and the two brigades to oppose the Sardinians, should have been pushed on Vigevano supported by the 3d corps, and, if necessary, by the reserve.

No definitions nor explanations would have availed to prove the superior importance which certain points in a theatre derive from their position, so clearly as the examples of the two towns Mortara and Vigevano; the former giving access to all the lines which the enemy could use—the latter giving, while occupied, absolute security to the Austrian advance.

In a greater degree this is also true of the points Pavia and Milan. When the Austrians were concentrated at Pavia, they occupied a centre from whence to move by short radii to all possible points on the lines of operation, whether for offence or defence. And had the Sardinians held Milan at the outset, it would have afforded them reciprocal advantages.

On the 23d, Radetzky knew that the enemy must be either at Novara, or making for Vercelli, but probably at Novara. Therefore he directed three corps thither, and sent one corps by Robbio to close the road. Supposing the enemy to be making for Vercelli, that single corps would be sufficient to arrest their progress till the reserve from Mortara could move to its support, while the other corps, crossing the intervening space, would come on the flank and rear. When the leading corps found the enemy at Novara, all were directed thither; but that which had been detached on Robbio did not arrive to share in the action. Whatever risk there might be in the absence of a fifth of his army from the battle-field was thus incurred by Radetzky.

It may be asked, Why did he not direct his whole army on Vercelli, since he would thus effectually cut the enemy from the base without incurring the risk of dispersing his corps? But had he done so, he would have opened the Novara-Mortara road to the Sardinians, who, crossing his rear, might have passed the Po and gained Alessandria. The risk of this was prevented by moving his several corps along the road to Novara.

Finally, the Sardinians, to meet the attack, formed on a front parallel to the Vercelli road, with their flank on the road. Beaten in the battle, they naturally and inevitably retired to their rear; they thus lost the only road that led to Turin, and their defeat was absolute and decisive.

On the other hand, had the Austrians been defeated in the battle, they,

retiring to their rear, would have followed the road by Mortara to Pavia, and could either have defended the Ticino, or continued their retreat to the Mincio.

With reference, then, to the subject of this chapter, it may be assumed, as a step towards future investigations— General deductions.

1st. That when one of two opposing armies is operating on a front parallel to the line communicating with its base, and the other on a front perpendicular to the line communicating with its base, the latter has acquired a great advantage over its adversary.

2d. The advantage is of the same kind whether the armies are concentrated or operating on extended fronts.

3d. The distance of the front of the army from its parallel line of communication, when the front is extended, and when the space between is devoid of defensible positions, does not prevent, but only postpones the catastrophe.

4th. That it must be a great error to place an army in such a position, without reasonable prospect of a counterbalancing advantage.

But it will be demonstrated in the following chapter that the disadvantage is of a kind that will be annulled by a tactical success, and that it does not necessarily render a tactical success less probable.

In order to avoid the circumlocutory phrase, "an army operating on a front parallel to the line communicating with its base," let us in future say, "forming front to a flank." The term "flank position" would not answer the purpose, since it properly belongs to an army concentrated in one space, and not extended on a wide front.

CHAPTER III.

CONTINUATION OF THE SUBJECT.—CAMPAIGN OF SALAMANCA.

See Map No. 1.

As an instance of success achieved in the position which has been described as so unfortunate, let us take the case of Wellington at Salamanca.

The hostile armies in July 1812 faced each other on the Douro. Marmont's line, in case of retreat, lay through Valladolid and Burgos. Wellington could regain his base in Portugal only by the road from Salamanca to Ciudad Rodrigo. The French front extended from Toro on the right to the Pisuerga on the left, and was there thrown back along the course of the river. Wellington's right was at Rueda, his left on the Guarena. Thus each army, in the existing position, covered its communications with its base.

Rueda to the Guarena, 23.

Marmont, on the 15th and 16th, suddenly moved his army upon Toro, and began to cross there. Wellington knew of this movement on the 16th, and prepared to meet it by uniting his centre and left at Canizal during the night.

Marmont, then, had turned Wellington's left, and by persisting in an advance from Toro upon Salamanca he would reach that place as soon as his adversary. Wellington must therefore break through or be lost. He would attack the French on the march; they would form in order of battle to meet him, and the fronts of both armies would be parallel to the road from Toro to Salamanca. Both armies would be in a flank position —either would be ruined by defeat. A French victory would cut Wellington from Portugal, and throw him back on the Castilian mountains and the army of King Joseph. An English victory would cut Marmont

from Toro, and drive him back on the Douro, and the difficult hostile country of the Tras-os-Montes.

It was not Marmont's design to bring matters to such a desperate issue. His movement on Toro had been a feint to induce Wellington to make a corresponding movement, and so leave the bank of the river at Pollos and Tordesillas open. He countermarched on the 17th behind the river, crossed it at those two places, and occupied Nava del Rey, where his whole army was concentrated that night.

Toro to Tordesillas, 23.

Tordesillas to Nava del Rey, 13.

Wellington, doubting his antagonist's object, had left his Right on the Trabancos, to guard against such an operation as that which Marmont had effected. At midnight the English general, then at Toro, heard that his Right Wing on the Trabancos was in presence of the French army. As he could neither keep it there till the Centre and Left could march to its support, nor hope to withdraw it safely to any considerable distance, he adopted the obvious measure of concentrating his army on an intermediate line of defence. At daybreak his Right retreated towards the Guarena, closely followed by the heads of Marmont's columns: it reached and crossed the river—met there the rest of the army; an attempt of the French to cross was defeated, and they remained facing each other throughout the 19th.

The Trabancos to the Guarena, 10.

Both now covered their lines of retreat. But, on Wellington's right, roads led to the fords of Huerta and Alba on the Tormes, and thence to his line of communication below Salamanca. Wellington did not expect Marmont to attempt to turn his right by that line, because he believed the fort which guarded the ford at Alba to be held by a Spanish garrison, and he therefore remained covering Salamanca, a point which was very essential to his campaign; for should the French regain it with its forts and bridges, Wellington's first step towards resuming the offensive must be to attack Marmont, thus strongly posted on the river, in order to open the road for a further advance.

The English leader therefore held his position, covering Salamanca. But Marmont—knowing, what Wellington did not know, that the Spanish garrison had been withdrawn from Alba—concentrated his army on its left, on the 20th, moved in several columns up the Guarena, and crossed it, moving to the Tormes. The stroke was aimed directly at Wellington's communications, and he was constrained to follow the movement, march-

ing parallel to his adversary on an opposite range of heights within musket-shot. All the country between the Douro and Tormes appears to be so open that the columns were not restricted to the roads, but moved freely as they do at Aldershott. The march was conducted by both generals with such regularity, that though on each side vigilant eyes watched for an opening to attack to advantage, neither found it. Such movements can be made only by practised and self-reliant leaders.

Huerta from the Guarena, 13.

At Cantalpino the British found themselves outmarched and outflanked. Finding it impossible to be first on the river, Wellington fell off towards some heights on his right, while Marmont's left reached Huerta.

Napier tells us that on the evening of this day Wellington was deeply disquieted. He might well be: for the French had proved their superiority in marching power; and if the parallel march of that day were repeated, they would strike a lower point than Wellington on the Ciudad Rodrigo road, and sever his communications. On the other hand, if he retreated precipitately he would have the mortification of seeing his adversary regain Salamanca. With these menacing alternatives before him, he took position on the hills covering Salamanca on the 21st.

On that day Marmont began to cross at Huerta and Alba, and placed a garrison in Alba, his leading divisions encamping at Calvariza-Arriba. Wellington met this movement by crossing also, at Santa Marta and Aldea Lengua. On that night Wellington's right was at the village of Arapiles, his left at Santa Marta, where a division remained on the right bank covering Salamanca from a possible advance on that bank by Marmont. The French left had been extended, threatening the Ciudad Rodrigo road.

It may appear that Marmont in thus manœuvring to his left was to a certain extent uncovering his own communications. But in reality he ran no risk. For though the great road, the only one, back to France lay through Valladolid, yet French armies occupied both Madrid and Andalucia, and the King was then moving through the mountains towards Blasco to co-operate with him. Thus supported he might feel confident of regaining the Douro.

In the series of manœuvres just described, one skilful general had sought to assail and the other to defend a line of communication. And the strategical advantage remained entirely with the French leader,

MAP Nº I.

CAMPAIGN OF SALAMANCA
1812

who had pressed his antagonist back from the Douro to the Tormes, and now compelled him to form front parallel to his line of retreat. But to gather the fruits of his success he must still defeat his enemy in battle. Next day, however, saw Wellington win the battle of Salamanca, and with the victory he not only regained all the ground of which the previous operations had deprived him, but by the mere impetus of success, and without another engagement, his left wing pushed the beaten army back on Burgos, while his right chased the French court from the Spanish capital. Nevertheless, the disparity of loss between the victors and vanquished at Salamanca was not considerable. Marmont's army, far from being ruined, presently made head again and turned on its pursuers, following them once more to the Tormes.

These examples will probably be sufficient to illustrate the case of a flank position in an open country. The general who by manœuvres or otherwise places his enemy in such a position, is within one vigorous stride of decisive success; and if his confidence in himself and his troops be such as to render him eager to fight for an adequate object, he must esteem himself fortunate indeed to be able, at no more than ordinary risk to himself, to force on his antagonist the alternative of victory or ruin.

On the other hand, an army which is inferior in fighting power to its adversary, will not gain much by forcing that adversary to form front to a flank, for its chance of victory will be as slight as ever.

And a great superiority in fighting power, such as larger force, or a strong position, may justify a leader in forming front to a flank in order to give battle.

CHAPTER IV.

CASE OF BOTH ARMIES FORMING ON A FRONT PARALLEL TO THE LINE OF COMMUNICATION WITH THE BASE.—CAMPAIGN OF JENA.

Reasons for operating thus.

It sometimes happens that both opposing armies form front to their natural flanks; for instance, the lines to their bases running east and west, the armies front north and south. This may happen from many causes: because both are confident in the issue of a battle, and are more careful of assailing the enemy's communications than of guarding their own; or because one army has established such a superiority as to risk little by the movement, to which the adversary is compelled to conform; or because of geographical circumstances which will be discussed hereafter; or because political reasons are paramount in the plan of campaign.

During the campaign of Austerlitz, in 1805, causes of dispute and hostility existed between Napoleon and the Prussian Government.

If Prussia had then joined the coalition against the Emperor, her position on the flank of his line of march down the Danube to Vienna would have enabled her seriously to embarrass, perhaps to destroy, the plan of his campaign. He could hardly have persisted in advancing while a powerful army was descending through Franconia upon his rear. By joining Austria and Russia at that time, Prussia might have checked at their outset the victories of the Empire.

But the result of that campaign was to force Austria to conclude a peace on Napoleon's terms. And it was not till the Emperor was leading his victorious troops back to France that Prussia declared war. Nor was this the only error she committed in choosing a time for hostilities. For

Russia had made a treaty of alliance with her, and a few weeks would have brought the forces of this powerful auxiliary on the theatre of war. As it was, with untried troops, antiquated generals and equipments, divided counsels, and a meagre exchequer, she was about to enter the lists, single-handed, with the experienced leaders, the tried soldiers, and the boundless resources of Napoleon.

It had been the Emperor's policy to cause the several corps of the army returning from Austerlitz to halt along the course of the river Mayne. For at this time he was engaged in forming the Confederation of the Rhine, by which the territories of his German allies were to be increased at the expense of his German enemies, and the eastern bank of the great river, thus in his hands, would give him free admission to the rest of Germany. To spare France as much as possible, he had stationed his army in the territories about to be thus transferred, feeding it by forced contributions. The different corps were posted on the 3d October 1806 as follows:— See Map No. 2.

Corps.	Commander.	Station.	Force.	
1st, .	Bernadotte, . . .	Lichtenfels, . .	20,000	Positions of
3d, .	Davout, . . .	Bamberg, . .	27,000	the French
4th, .	Soult, . . .	Amberg and Bamberg,	32,000	corps.
5th, .	Lannes, . . .	Schweinfurt, . .	22,000	
6th, .	Ney, ...	Nuremberg, . .	20,000	
7th, .	Augereau, . . .	Wurtzburg . .	17,000	
Cavalry, .	Murat, . .	between Wurtzburg and Kronach,	32,000	
Imperial Guard,	Bessières and Lefebvre, .	Wurtzburg, . .	20,000	
			190,000	

Stationed thus along the Mayne, the French corps, looking northwards, saw before them the hills of the Thuringian Forest, part of the range of central Germany, which extends from the Rhine to the frontier mountains of Bohemia. Beyond that range is the great plain of northern Germany, the vast levels of Prussia, Hanover, and Westphalia, merging on the one side into the flats of Poland and Russia, on the other into the gentle slopes of the Netherlands and France.

Three roads lead from the Rhine into northern Germany. Possible French lines of operation.

The first, from Wesel across Westphalia and Hanover, by which the mountains would be avoided.

The second, the main post-road of Germany from Frankfort along the

valley of the Mayne to Hanau, thence northward by Fulda, Eisenach, Gotha, Weimar, to Leipsic.

The third, from Mayence along the valley of the Mayne to Bamberg and Baireuth, thence by three defiles to the valley of the Saal—namely, Baireuth to Hof, Kronach to Schleitz, Coburg to Saalfeld.

Napoleon's newly-acquired fortress of Wesel gave him admission to the first road; but, although by traversing it he would turn the obstacle of the mountains, his path would be crossed by great rivers, which, by the volume of their waters in the lower portions of their courses, would render the passage in the face of an enemy a formidable problem. Moreover, during the long circuit which his troops must perform from the Mayne to Wesel, his design would become apparent, and the enemy would be prepared to meet him on that line.

The choice of a line of operation seemed therefore to lie between the roads which passed the Thuringian Forest, the one on its western, the other on its eastern extremity. That of Fulda-Eisenach would bring the French and Prussian armies into opposition on the Saal and Elbe, each covering its communications with its base. That of Bamberg would bring the French on the upper portion of the Saal, where it is an inconsiderable obstacle, and on the Prussian communications.

A glance at the map shows that the Elbe forms the great natural defence of Prussia against an attack from the west. The passages of the river are guarded by the fortresses of Magdeburg, Torgau, Wittenberg, and Dresden, closing the principal roads to Berlin and to East Prussia.

Here, then, Prussia might await the onset till joined by her Russian auxiliaries; but such was the influence of the traditions of Frederick's exploits on the spirit of the people, that nothing was thought of but an offensive campaign. It was said in Prussia that the success of the Napoleonic system of war was due to the supineness of his adversaries, who had chosen to await in a defensive attitude the development of his plan, and that by anticipating his attack the most effective weapon in his armoury would be wrested from him. Another and more substantial, if not more potent, reason for taking a position in advance of the Elbe, was that Saxony and Hesse-Cassel would send strong con-

tingents to the Prussian army if their territories were covered, but not otherwise. Indeed, if Saxony were left defenceless it was possible that she might save herself by submitting to conditions, one of which would be a free passage over the Elbe for the French at Dresden.

Owing to these considerations the hostile armies now faced each other on opposite sides of the Thuringian Forest. The Duke of Brunswick, a veteran of the Seven Years' War, was commander-in-chief of the Prussian army; but it was divided into two main portions, and the lesser was placed under Prince Hohenlohe, one of the sovereigns who had just been deprived of his territories by the Confederation of the Rhine. He had acquired some reputation in 1792, and exercised a certain independence of command.

Position of the Prussian forces.

The main Prussian army was at Erfurt; on its right about Gotha was the Westphalian contingent under General Ruchel; the advanced-guard was under the Duke of Weimar, whose business was to reconnoitre the defiles towards the enemy. Hohenlohe's main body was near Jena on the Saal, and his advanced-guard under General Tauenzein watched the defiles leading to the Upper Saal from Hof to Saalfeld. The numbers were, according to the German authorities (Thiers gives a much higher and probably inaccurate estimate), as follows:—

Duke of Weimar's force, ...	11,000
Main body, ...	51,000
General Ruchel's Westphalians, . . .	22,000
Hohenlohe's corps, including Saxons, . .	44,000
Reserve under the Prince of Wirtemberg, . .	15,000
Total in the field, . .	143,000

Prussian base and front.

The base of the Prussian portion of the army was the Elbe from Magdeburg to Torgau—that of the Saxon contingent was Dresden; and the general front of the army was parallel to the roads from Dresden to the Saal.

French base and front.

Napoleon had collected his supplies at Mayence, making Wurtzburg his immediate depot; and the general front of the French was parallel to the road Mayence-Wurtzburg.

In October both sides meditated immediate offensive operations, and up to the 7th the Duke of Brunswick believed that Napoleon intended to concentrate his army behind the Forest and await the attack. The

Prussian plans.

Prussian generals differed in their plans of action. Hohenlohe wished to throw his own corps against the French right through the defiles of the Upper Saal. He calculated on surprising and throwing back the corps successively, and forcing the grand army to the Lower Mayne, while Brunswick's corps advanced through the passes in its front to second him.

The Duke of Brunswick's plan was to move Hohenlohe's army by Saalfeld and his own by Gotha, so as to bring them into communication in the Forest, the first at Hildburghausen, the other at Meiningen, on the 12th October. Tauenzein's corps, of Hohenlohe's army, towards Baireuth was to cover the left, while Ruchel on the right was to move on Eisenach, and, by threatening Fulda, direct the attention of the French to a false point. The main armies were then to fall on the centre of the line of the Mayne, and cut off from Mayence all the French who were in Franconia.

This movement was to commence on the 10th, and, as a preliminary, the Duke of Weimar's corps was sent into the Forest to reconnoitre and form the advanced-guard. On the 9th, he reported that the French were concentrating about Coburg, and the Prussian general, abandoning his offensive intentions, began to concentrate his army about Weimar.

Napoleon had made his dispositions to advance thus:—

The Right Column—Soult's and Ney's corps in advance of Baireuth towards Hof.

The Centre—Bernadotte and Davout, with the cavalry reserve, and the Foot Guard at Kronach, to move by Lobenstein on Saalburg and Schleitz.

The Left—Lannes and Augereau, after feigning to move towards Hildburghausen, were to countermarch from left to right through Coburg towards Saalfeld by Grafenthal.

The army was ordered to cross the frontier of Saxony on the 8th October. Murat's cavalry in the centre advanced to Lobenstein. The Prussian detachment, observing the defiles, made a slight demonstration of resistance and fell back to Schleitz, without disputing the passage of the Saal, which at this part of its course is an insignificant obstacle. Emerging from the defile, the cavalry spread right and left. Towards

Hof they saw no enemy to stop Soult's march; but on the left towards Saalfeld they saw two bodies of Prussian troops, which were, in fact, Hohenlohe's advanced-guard under General Tauenzein.

9th October.—The Centre crossed the Saal at Saalburg, moving upon Schleitz. Tauenzein's corps made a stand here, and were driven in by Murat.

Napoleon's headquarters were at Schleitz.

Lannes was approaching Saalfeld.

Soult was at Plauen.

Napoleon's views of the situation.

On the 10th the Emperor wrote a letter to Soult, from which we learn his view of the situation. He believed that on the 5th the Duke of Brunswick's army had moved towards Fulda to attack, and that Hohenlohe, in executing his share of the plan, would attempt to advance through the defiles which Napoleon had just traversed. He inferred that Brunswick's army had committed itself so deeply to the forward movement that many days must elapse before it could countermarch to rejoin the Prussian left wing on the Saal. He believed, therefore, that he should have only Hohenlohe to deal with, and he imagined, from the direction in which the Prussians retired (especially after hearing from Soult that the Saxon horse driven out of Plauen had retreated towards Gera), that Gera would be their point of concentration. Whether they should make or await the attack, he was equally confident of victory; and he intended, if they should retreat by Magdeburg (a contingency which he expected, probably, as the result both of his own manœuvres to shoulder them off the Leipsic road, and of the necessity they would naturally feel of keeping in communication with Brunswick), to push Soult on Dresden, the road from whence to Plauen he presumed to be clear of the enemy.

Such were his anticipations, and to realise them he pivoted his left on the Saal, and swung round his right in order to cast his weight on Hohenlohe, and to sever both him and Brunswick from the Elbe except by the long circuit of Magdeburg.

10th October.—Lannes attacked Prince Louis (commanding part of the advanced-guard) at Saalfeld, and drove him back upon Jena.

11th October.—Lannes moved on Auma. Augereau filled the space between Lannes and the Saal. Soult upon Gera. Ney towards Auma.

The army was thus concentrated between the Elster and Saal, covering the defiles it had issued from, and cutting the Saxons from Dresden. Immense quantities of their baggage were taken by Soult's cavalry.

Kosen to Jena, 18.

12*th.*—Napoleon heard that Brunswick, countermarching from Erfurt to Weimar, was approaching the Saal. The two principal roads to the Elbe from Weimar cross the Saal at Jena and Kosen.

Lannes and Augereau were ordered to Jena.

Davout, followed by Bernadotte, moved on Naumburg. Thus the centre became the right.

Murat's cavalry patrolled the river between and beyond Jena and Naumburg.

Soult was at Gera.

Ney at Auma ready to reinforce either point at need.

Lannes seized Jena.

Davout and Bernadotte seized Naumburg and the bridge of the Saal with large magazines.

Naumburg to Leipsic, 25.

Murat's light cavalry pushed on to the gates of Leipsic.

At this time the Prussians were concentrating towards the Saal. The Duke of Brunswick's army, not so deeply committed to the Forest as Napoleon had supposed, assembled about Weimar on the 12th, except the Duke of Weimar's advanced-guard of 10,000 men, which had not yet rejoined it. Hohenlohe's army, assembled between Weimar and Jena, was to stand fast and cover the general movement. The main body was to march through Weimar to the defile of Kosen, on the left bank of the Saal, but not for the purpose of crossing, for to pass by that road to Leipsic would be to lend an uncovered flank to the attack of whatever force Napoleon might have assembled on the right bank. He intended to hold the issue of the defile from the bridge of Kosen on the left bank, and to push two divisions on to secure the passage of the Unstrutt, a tributary of the Saal. He would then feel secure of his retreat on Magdeburg, his march to the Elbe being covered by the Saal, and the two main passages blocked by himself and Hohenlohe. General Ruchel was to remain at Weimar to rally to him the Duke of Weimar, and was then to rejoin the main army. These movements accomplished, Hohenlohe was to follow, and the army was then to move entire behind the Saal on Magdeburg. And it would appear that the Prussian generals conceived the French

Weimar to Jena, 12.

Weimar to defile of Kosen, 18.

Prussian movements of concentration and retreat.

army to be advancing not as it really was, entirely on the right bank, but partly on both banks; for Hohenlohe's front, instead of being towards the river, was parallel to the Weimar-Jena road, as if he expected an attack along the left bank from Saalfeld; only Tauenzein's corps was thrown back at an angle along the heights above Jena to observe the passage there.

On the 12th Lannes had not only seized Jena, which is on the left bank, but had pushed his light troops through the ravines on to the heights which overlook the left bank, where they were almost in presence of Tauenzein.

13th.—Napoleon, hearing that the Prussians were definitely advancing to the Saal to fight a great battle, moved on Jena, followed by all his corps except those of Davout and Bernadotte.

The valley, hitherto enclosed by the Thuringian range, widens at Jena. The right bank is flat, but behind Jena, on the left, are steep hills ascended by winding ravines. Between Jena and Kosen were two other passages of less importance, because not on main roads—namely, at Lobstedt, three miles from Jena, and at Dornberg. Lannes's skirmishers, pressing on supported by a division, reached the plateau by the ravines. Napoleon followed, and from the highest hill, called the Landgrafenberg then, and since the Napoleonsberg, he saw the undulating plain as far as Weimar, and the Saal running in a deep gorge to Kosen, twenty miles distant. Hohenlohe's army was visible on the road to Weimar; but Ruchel's troops at Weimar were hidden from view, and the valley of the Ilm concealed the march of Brunswick's army towards the defile of Kosen, whither it was moving in five divisions, separated by intervals of three miles.

Napoleon's anticipations and orders.

Napoleon, seeing only the troops of Hohenlohe, and unable from the inequalities of ground to estimate their numbers, believed that the whole Prussian army was before him, and resolved to fight it next day. Before ascending the hill, he had sent orders to Davout to guard the bridge of Kosen, and to Bernadotte to move on Dornberg, thus closing the passage there. In the night of the 13th, expecting to fight the whole Prussian army next day, and considering that the French force at Naumburg would rejoin him as speedily and much more effectually by the left than by the right bank, he had sent fresh orders to Davout, not merely to bar the way at Kosen, but to cross the Saal there and come down by

Naumburg to Dornberg, 13.

Apolda on the Prussian rear. The despatch added, "If the Prince of Pontecorvo (Bernadotte) is with you, you may march together; but the Emperor hopes that he will be already in the position assigned him at Dornberg." Bernadotte had joined Davout at Naumburg, but on seeing the new despatch towards morning on the 14th, he construed it to express the Emperor's desire that he should be at Dornberg rather than with Davout, and to Dornberg he marched.

Murat, ordered on the 13th to assemble the cavalry at Dornberg, received a further order in the night to move on Jena.

Soult, arriving from Gera in the night, was to cross at Lobstedt, debouching on Closewitz, and on the rear of Tauenzein.

Ney and Murat were to ascend the Landgrafenberg by the route which Lannes had followed.

Augereau was to move his corps partly on the Weimar road, partly on the Landgrafenberg. The reason for this concentration on the hill instead of on the road was, that the road winded steeply up a hill to the plateau, and being strongly guarded, was very difficult of access.

Hohenlohe, still imagining on the night of the 13th that he was menaced only by Lannes and Augereau, and that Napoleon's main army was moving on Leipsic and Dresden, did not think it necessary to drive from the Landgrafenberg the French troops that had established themselves there, but had contented himself with reinforcing the corps on the left which faced the river. His main body remained as before parallel to the Weimar road, facing the point from which he still expected the attack of the two marshals.

Owing to his incorrect estimate of the position of the Prussian army, which he imagined to be assembled before him, Napoleon had massed at Jena a force double the number of the enemy. On the other hand, Davout, advancing in compliance with Napoleon's order with his corps 27,000 strong, met Brunswick's army, numbering 51,000, at Auerstedt. Hohenlohe's army was routed. Brunswick's, notwithstanding its superiority of force, was defeated in a battle more glorious to the victor than any other ever fought independently by a marshal of the Empire. The beaten army of Auerstedt was retreating to Weimar to join Hohenlohe, ignorant of his fate, when the appearance of Bernadotte's corps at Apolda, where it had arrived towards evening, completed its discomfiture. Find-

Auerstedt to Jena, 12.

ing their retreat on Weimar thus intercepted, the Prussians in the greatest disorder turned to the right; the two streams of fugitives crossed and intermingled, and the country was covered with scattered bands heading towards Magdeburg.

On the night of the battle, Napoleon, from his headquarters at Jena, directed the following movements in pursuit, with the double object of preventing the enemy from rallying, and of reaching the Elbe before them:— Movements in pursuit.

Bernadotte by Halle towards Magdeburg.

Davout back to Naumburg to cover the passage, to be within reach of Leipsic, and to be ready to reach the Elbe before the enemy.

Soult on Buttelstedt, between Weimar and Naumburg.

Murat with the reserve cavalry to pursue towards Erfurt and to capture it next day; then to turn northward and continue the pursuit towards Weissensee. Weimar to Erfurt, 14.

Ney's corps to support Murat.

Lannes and Augereau to assemble their corps before Weimar.

Imperial Guard in Weimar.

While Bernadotte, Soult, and Murat pressed the enemy on three roads to Magdeburg, the corps of Davout, Lannes, Ney, and Augereau, were allowed to rest till the 17th. Then Ney followed Murat and joined Soult before Magdeburg.

Lannes moved by Naumburg on Merseburg, observing Halle.

Augereau followed Lannes.

Davout through Leipsic on Wittenberg.

At Halle, Bernadotte found the Prussian reserve under the Prince of Wirtemberg, attacked, and drove it back on Dessau.

20*th October*.—Davout seized the bridge of the Elbe at Wittenberg on the highroad to Berlin.

Lannes passed at Dessau.

Augereau followed Lannes—all three moving on Berlin.

Meanwhile Hohenlohe with the remains of the Prussian armies had reached Magdeburg, which on the 21st he quitted, marching for the Oder by roads north of Berlin. Blucher acted as his rear-guard: and both moved slowly, partly from the necessity of spreading to procure food, partly because they desired to rally to them the Duke of Weimar's corps.

On the 15th its commander, then at Erfurt, had heard of the result of the battles, and to avoid the French he took the Brunswick road, and on the 26th passed the Elbe at Sandow. Hohenlohe had delayed for him till the 24th, then gave up the expectation of effecting a junction with him, and moved rapidly for the Oder.

Intercepting movements (described, but not included in map).

25th.—Davout entered Berlin, and passed through on the Custrin road to attack the fortresses on the Oder.

Lannes surprised the fortress of Spandau (near Berlin).

26th.—Murat's cavalry, followed by Lannes's corps, marched to intercept Hohenlohe.

Bernadotte, from Brandenburg, pursued Blucher by Nauen.

Soult passed the Elbe to cut off Weimar's corps.

Augereau held Berlin.

Ney blockaded Magdeburg.

Murat and Ney headed Hohenlohe at Prentzlow, beat him, and captured his whole force.

Blucher, thus cut from the Oder, joined Weimar's corps, and attempted to march back to the Lower Elbe, intending to base himself on fortresses there, and thence operate on the French rear. But, constantly pressed in rear by Bernadotte and on his flank by Soult and Murat, Soult cutting him always from the Elbe, Murat from the ports of the Baltic, he was hemmed in upon the neutral town of Lubeck. Driven from thence, and having in his rear the Danish frontier, he surrendered to Murat, 7th November.

Stettin capitulated, 29th October.

Ney took Magdeburg, 8th November.

Results of the campaign.

The whole Prussian army with its fortresses had thus fallen into the hands of the conqueror.

The movements subsequent to the 14th October have been stated only briefly, because the campaign was in reality decided by the victories of that day, which left the French masters of a line to Berlin and the Oder, shorter than any that was open to the Prussians.

COMMENTS.

Napoleon's three columns marched with great rapidity to the Saal. They were very little encumbered with supplies, taking only the bread

and brandy necessary for the first marches; and after the defeat of the Prussian armies there was no difficulty in subsisting on the country. The radiation of the several corps of the pursuing army from the neighbourhood of Weimar insured the supplies. As soon as the victories had opened the direct road to Frankfort by Erfurt, that was adopted as the line of communication with France; points on it were fortified and provisioned; and as soon as the passage of the Elbe was secured, a bakery and arsenal were established at Wittenberg for present needs, and another at Erfurt in case of retreat.

In the march to the Saal the principle of concentration is very evident. The columns moved as near each other as possible; they communicated by means of the cavalry at the first opportunity; and the army was collected in a space suited to its numbers with the least possible delay. The Prussian plans for offence were, on the other hand, faulty in this respect; the project of Hohenlohe, and that of Brunswick, alike entailed the separation of the two Prussian armies during the movement, by the formidable obstacle of the Thuringian Forest.

When the movement was begun, the French army at Schleitz left their communications along the Mayne uncovered. It may be asked, then, Why did the Prussian army abandon its own movement against the French left to meet the threatened attack? Why did it not persist in that attempt, and thus reciprocally sever the communications of the French on the Mayne?

It has been said that the Prussian advance was to begin on the 10th. But on that day the Prussian left was already turned, and the French were on the Dresden road. To persist in the advance would be to abandon the Prussian communications and magazines while engaging in an enterprise against a line which was still distant, and which might never be pierced. It would be an attempt to balance a certainty by an uncertainty. Any general in the situation of the Prussian leader, feeling the whole weight of his enemy either on his flank or his communications, will naturally seek rather to meet the danger than to engage in dubious reprisals. It may be assumed, then (and other instances will hereafter be cited in confirmation), that *when two armies are manœuvring against each other's flanks or communications, that army whose flank or communications are most immediately threatened will abandon the initiative and conform to*

Similar case of Chzarnowsky and Radetzky, Chap. II.

Important deduction.

the movement of its adversary. The importance of this fact is immense, for the commander who finds himself on his enemy's flank or rear, while his own is still beyond his adversary's reach, may cast aside all anxiety for his own communications, and call up every detachment to the decisive point, certain that the enemy will abandon his own designs, in order, if possible, to retrieve his position.

The fact also relates immediately to the subject of this chapter, as exhibiting a modification of the disadvantage of a flank position. The French communications were by their direction even more exposed than the Prussian—certainly more than the Leipsic line; yet Napoleon, once on the Saal, felt so secure that his adversaries would presently retrace their steps, that he actively continued his own advance though he believed the counter-attack to be more forward than it really was.

Nothing could prove more clearly how false strategically was the Prussian position in advance of the Elbe at the outset of the campaign than the fact, that before any considerable action had been fought, and though nothing had occurred but what had been foreseen as possible, yet the army was now, by a difficult, complicated, and doubtful movement, and a long circuit, attempting to regain the line of that river at its most distant extremity.

Napoleon's dispositions, up to the battles, were all of the same general character, being in the form of two wings and a central reserve. On the 10th the Centre was at Schleitz, the Left Wing at Saalfeld, the Right at Plauen. He then expected to find the enemy assembled at Gera; therefore the Left is brought into the space between Auma and the Saal, the Centre is still at Schleitz, the Right is moved from Plauen upon Gera. Finding he had miscalculated, and that the enemy was on the other bank, he resolved to bar both the direct roads to the Elbe. The Centre, having rested two days, pushes on to Naumburg, and becomes the Right; the Left concentrates upon Jena; the Centre (Ney at Auma, Soult at Gera) was ready to reinforce either wing; but the Left at Jena could be far more easily reinforced by the Centre than the Right at Naumburg. This was because the Left was the Wing which it was most important to render secure, for the Prussian armies were concentrating in order to recover their lost communications, and this must be done either by attempting to reach the Elbe by Magdeburg faster than the French could

Why Jena was a more critical point than Naumburg for Napoleon.

by Leipsic, or by a desperate effort to break through the opposing ranks. That effort might be made on either of the two roads—that of Jena or that of Naumburg. If it were made successfully at Naumburg, the French Right would be defeated; but, supported by Bernadotte and connected with the main line by the cavalry, it would probably succeed in rejoining the main body; while the retreat of the rest of the army would, if necessary, be secure. But if it were made successfully at Jena, the defeat of the French Left Wing would not end the mischief, for the retreat of a great part of the army would be cut of; therefore Napoleon so disposed his corps as to concentrate most readily at Jena.

If he could have known exactly the position and direction of the Prussian armies on the 13th October, he would no doubt have directed Soult and part of the cavalry to join Davout and Bernadotte; for, as matters really happened, he exposed Davout to encounter single-handed nearly double his force, while Napoleon himself had a preponderance over Hohenlohe much greater than was necessary, and Bernadotte was lost to both fields. But in the absence of such certainty he followed the safest course when he directed the whole of his centre on the side of Jena.

Historians are fond of ascribing to successful generals such endowments as "prescience" and "intuitive divination of their enemy's designs." There will be evidence in subsequent pages that these gifts, in the preternatural extent implied, exist only in the imaginations of the chroniclers, and in this campaign Napoleon had in three days made three erroneous calculations of the Prussian doings. On the 10th he thought Hohenlohe was about to attack him; on the 10th also he judged that the Prussians were concentrating on Gera; and on the 13th he took Hohenlohe's army for the entire Prussian force. Still his plan made on these suppositions was in the main quite suitable to the actual circumstances. And this, as is mostly the case, was owing to *the right direction given to his movements at the outset.* The preliminary conditions of a campaign seldom offer more than three or four alternatives: an attack by the centre or either flank, and some combination of these. If the enemy has made such false dispositions as to render one of these alternatives decidedly the best, the general who has the faculty of choosing it thereby provides in the best possible way for all subsequent contingencies. A

Napoleon's miscalculations.

right impulse once given to the army, it is in a position to turn events not calculated on, or miscalculated, to advantage; and this is probably the true secret of the "divination" of generals.

The Prussians, in contemplating an attack on the French Left, were behindhand, compared with the French, not only in time but in space. Napoleon had massed his troops in his preliminary dispositions so close to the Saxon frontier that a single march carried them to the Saal; but, judging from the time when the Prussian advanced-guard, which had preceded the main body into the Forest, reached Erfurt on its return, the Prussians would have required several days to arrive in force on their enemy's communications. Hence it may be seen how great are the chances in favour of that army which is nearest its enemy's communications. The least instructed reader will discern in Brunswick's purblind and disjointed movements the anticipation of defeat, and in Napoleon's swift and concentrated march the confidence of assured success.

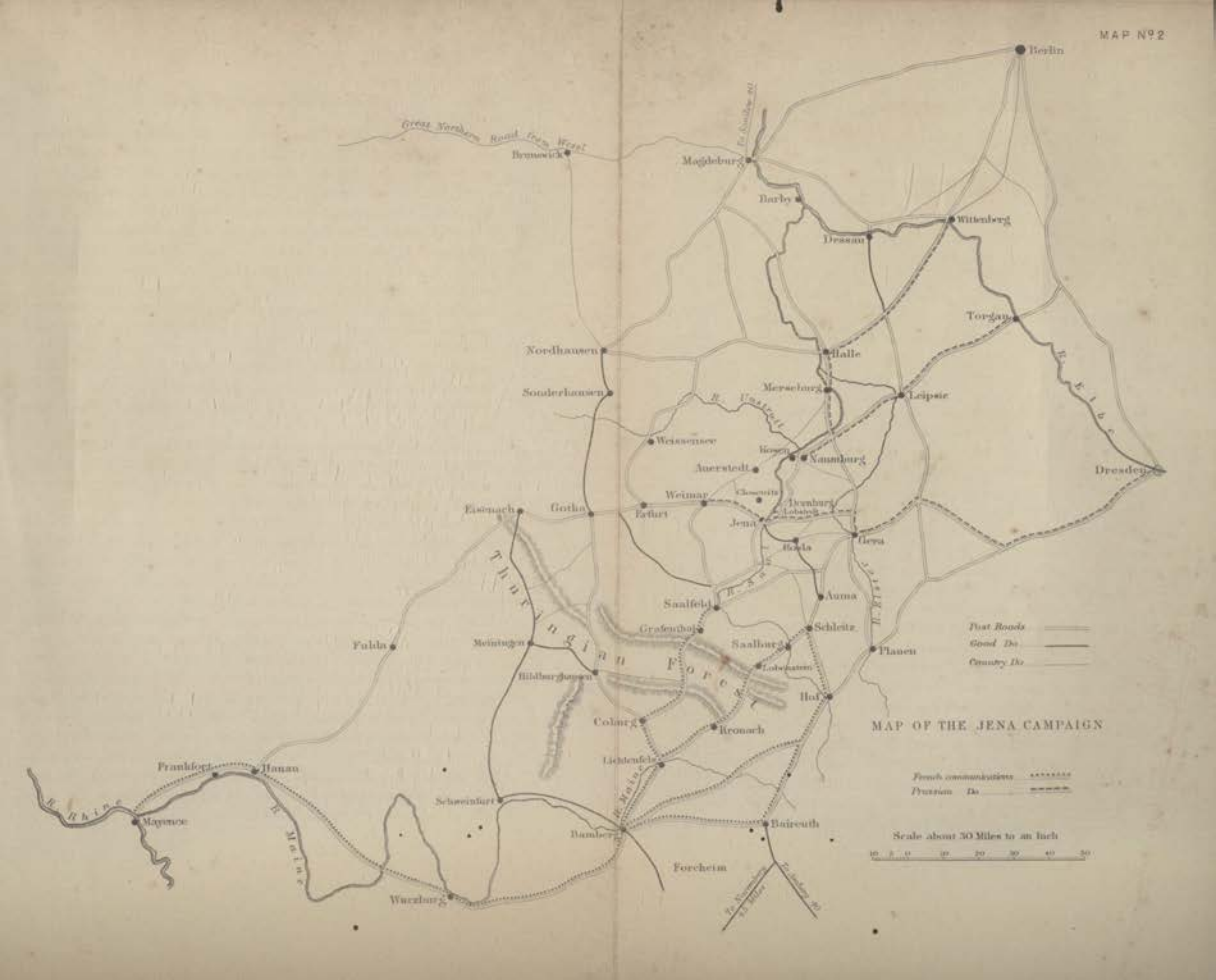
Had the Prussian army been all assembled on the Saal on the 9th or 10th, it would clearly have been in a much better position by taking post, as Napoleon thought it would, about Gera, for it would thus have had the option of retiring through Leipsic to the Elbe. But Hohenlohe alone could not take post there, or he would have lost his communications with Brunswick by a forward movement of the French left. He was therefore obliged to await Brunswick's arrival on the left bank, and it was inevitable that he should occupy the heights of Jena, for nowhere else could he cover the march of Brunswick through Weimar.

Why Hohenlohe occupied the heights above Jena.

Such are the matters chiefly to be noted in this campaign; but the reason for which it is specially quoted in this place is to show that the position of an army parallel to its communications with its base is not to be presumed invariably to be disadvantageous, since the relations of the two armies may considerably modify the effect of that circumstance. The successful assumption of the initiative by one of the combatants relieves him from all anxiety for his communications; but the campaign also puts in the strongest light the fact, that when an army in such a position suffers a decisive defeat, and surrenders to the adversary the shortest line to the object of the enterprise, it will probably be ruined by the blow.

Special reference of the campaign to the subject of this chapter.

MAP Nº2


Great Northern Road from West
Brunswick
Berlin
Magdeburg
R. Elbe
Barby
Wittenberg
Dessau
Torgau
R. Elbe
Nordhausen
Halle
Sondershausen
Merseburg
R. Unstrut
Leipsic
Weissensee
Naumburg
Dresden
Auerstedt
Weimar
Chossaute
Eisenach
Gotha
Erfurt
Jena
Lobeda
Apolda
Buttelstadt
Thuringian Forest
R. Saale
Auma
Saalfeld
Graefenthal
Schleitz
Saalburg
Lobenstein
Plauen
Fulda
Meiningen
Hildburghausen
Hof
Coburg
Kronach
Post Roads
Good Do
Country Do
MAP OF THE JENA CAMPAIGN
Frankfort
Hanau
R. Rhine
Mayence
R. Maine
Lichtenfels
R. Regnitz
French communications
Prussian Do
Schweinfurt
Bamberg
Baireuth
Scale about 30 Miles to an Inch
Forcheim
Wurzburg
R. Regnitz
R. Maine
Nuremberg
Erlangen

CHAPTER V.

HOW THE CONFORMATION OF A BASE MAY ENABLE THE ARMY POSSESSING IT TO FORCE ITS ADVERSARY TO FORM FRONT TO A FLANK.—MOREAU'S CAMPAIGN OF 1800.

In former years the base of the Republican armies operating in Germany had been some part of the straight course of the Rhine, from its corner at Basle to Dusseldorf. Their eminent adversary, the Archduke Charles, says that the strong line of the Rhine, and the lines of French fortresses behind it, can only be assailed by the Austrians in circumstances unusually favourable. All that can be done is to approach and choose a position where the plans of the enemy may be defeated, his advance stopped, and the country behind covered. See Maps No. 7 and No. 3.

The armies on the Rhine had hitherto been on parallel fronts; the Austrians generally on the defensive, since the exceptionally favourable circumstances which could alone enable them to assume the offensive by passing the Rhine had not existed. The French, breaking out at one or other of the bridge-heads which they possessed on the river, would try to press forward into Germany; the Austrians, drawing together on the threatened points, would oppose them, and the result was that, in 1800, the river still formed the frontier line between them.

Bridge-head: a fortification securing the passage of a bridge.

But in 1800 a new condition had entered into the problem of a campaign on the Rhine. The French had occupied Switzerland—an act which, like many of Napoleon's measures, was in itself unscrupulous and oppressive, but which entailed military results such as few generals of that time had the foresight to appreciate. One was to carry the French base onward from Basle, round the angle to Schaffhausen. Thus that

base, originally straight, was now rectangular, and enclosed within it a part of the theatre of war.

Positions of the French.

France held all the places on the Rhine, and three bridge-heads at Basle, Kehl, and Cassel. The different parts of Moreau's force were thus stationed.

Schaffhausen to Basle by the Swiss bank, 55.

The right wing, General Lecourbe, 29,000 strong, was posted along the Swiss portion of the Rhine, from Lauffenberg to beyond Lake Constance.

Next on the left was the reserve, 26,000, occupying the intrenched camp at Basle, and extending from thence to Seckingen on the right, and on the left to Upper Alsace.

Basle to Brisach, 35.

The centre, under General St Cyr, 30,000, stretched from Brisach to near Strasbourg.

Brisach to Strasbourg, 40.

The left wing, General Ste Suzanne, 19,000, occupied Strasbourg and the bridge-head of Kehl on the opposite shore.

Besides Moreau's army, a force of 30,000 French occupied Switzerland.

Renchen to Donaueschingen, 55.

The opposing forces were thus posted: The Austrian right wing, General Starray, 16,000, from the Mayne (where it observed the bridge-head of Cassel) to Renchen, and General Kienmayer, 15,000, the defiles from Renchen to the Höllenthal.

Positions of the Austrians.

Main body, under the Austrian commander Kray, 40,000, at Villingen and Donaueschingen.

Donaueschingen to Stokach, 28.

Reserve at Stokach.

On Lake Constance was an Austrian flotilla, and beyond the lake, in the Grisons and Rheinthal, was what the Austrians termed their left wing, under the Prince de Reuss, communicating by a brigade in the Italian Alps with the Austrian army in Italy. But as this left wing acted almost altogether independently, and the campaign was fought out by the armies on both sides then between Lake Constance and the Mayne, it is not necessary to perplex the subject by further adverting to these forces, or to the French troops occupying Switzerland.

Austrian communications.

The Austrians were of course far from their natural base, which was the Bohemian mountains and the Enns river. From thence roads led through Ratisbon along the Danube, while a more southern line lay by Steyer, Munich, Landsberg, Memmingen, Stokach, Engen, to Brisach.

The initiative lay with the French, who held all the passages over the river. It was for Kray to watch and defeat their attempts. He might

have found a much safer position farther in rear; but experience had proved to the Austrians, that to uncover the territories of the small German powers, such as Baden and Wirtemberg, was not merely to lose the contingents they lent to Austria, but to transfer their resources to the enemy. Kray therefore kept as forward a line as possible, but held his masses together about Stokach and Donaueschingen, that he might be ready to meet an attack on that side.

His troops were spread along the region known as the Black Forest. The valley of the Rhine, narrow at Basle, begins a little below to widen, till it reaches a breadth of about fifteen miles. Good roads lie along its course on both banks, but the great tumbled barrier of hills on the right seems to forbid all passage to Germany that way; yet there are fissures in the mountain-ranges in which lie roads passable for troops though difficult, and which lead through the Forest into the valley of the Danube. From Heidelberg, Bruchsal, Karlsruhe, Rastadt, roads to Ulm pass round or pierce the Black Forest. Opposite Strasbourg the Kinzig valley, opposite Brisach the valley of Waldkirch and the Höllenthal, give admission to the region in which lie the sources of the Danube. These passes it was Kray's business to guard. He had spread his right wing so far, because the French, collecting in overwhelming numbers behind the screen of the Rhine at Mayence, might from thence pass round his right, if there were nothing to observe or stop them. All along the valley of the Rhine he doubtless had his cordon of cavalry posts observing the river—bodies of infantry at the entrance of the different passes—and other bodies in support at points where those passes intersected in the Forest, such as Haslach. Then his main body at Villingen and Donaueschingen covered the two roads by Rothweil and Mosskirch upon Ulm; while his reserve at Stokach might either support the main body in opposing an attack from the side of Alsace, or, in conjunction with the main body at Donaueschingen, form front to the south to meet an advance from Schaffhausen.

Roads of the Black Forest.

Bonaparte, who depended on Moreau's success for the execution of his own campaign in Italy, wished the attack upon Kray to be made in the most decisive manner. He desired to take the fullest advantage of the conformation of the French base by concentrating the army between Schaffhausen and Lake Constance, and directing the march straight on

Different plans of Moreau and Bonaparte.

the neck of the Austrian communications at Ulm. To this Moreau objected, on the ground that the Left and Centre of his army must make a long circuit to join the Right; that a movement so extensive would become known to the enemy, who would prepare to concentrate and crush the columns as they passed the Rhine, and who, being on the base of the triangle round the sides of which the French must march, would be ready to intercept them.

Bonaparte responded that the broad stream of the Rhine afforded exactly the kind of curtain that was desired to screen the operation, while the results offered by success would probably be decisive, as the whole French army would be brought against Kray's left, and the forcing of that wing would cut him from his base, and from the secondary point of Ulm.

Moreau, however, considered the risk too great. Like most generals, he desired at almost any cost to avoid the risk of having to force a considerable river in face of a concentrated enemy. His own plan was this:

Moreau's plan detailed.

With his Left Wing (Ste Suzanne) he meant to cross the Rhine at Kehl; with his Centre (St Cyr) at Brisach; with his Reserve at Basle. Ste Suzanne and St Cyr were to attack the defiles of the Kinzig and the Elz on the same day. This would induce Kray to believe that the French were massing opposite his right; and he might be confirmed in that false impression by the extension of one of the brigades of the Centre *down* the valley of the Rhine towards the French Left Wing, as if to connect the two corps.

As soon as Kienmayer should be driven into the defiles, and so excluded from knowing what was going on in front or on each side of him, the Left Wing was to recross at Kehl, march up the left bank, and cross again to the German side at Brisach.

During this movement, St Cyr was to move the infantry of the Centre across the hills to St Blazien, sending his artillery and trains along the highroad on the right bank of the Rhine towards Schaffhausen. The Reserve, crossing the river by the bridge of Basle, was to push detachments up the valley of the Weiss from Basle to maintain connection with St Cyr, and was then to march along the Rhine to Schaffhausen, where the Right, under Lecourbe, was to be assembled on the left bank of the river. Bridges were then to be thrown, and Lecourbe's corps was to pass, protected by the Reserve.

Thus two corps—namely, the Reserve and Right—would be in mass between the Lake of Constance and the Austrian main body; while the long march of the Reserve in the defile between the mountains and river was to be covered and screened by St Cyr's infantry. Lastly, as soon as these three corps should be reunited on the Upper Danube, Ste Suzanne was to pass through the Höllenthal and join them.

In the mean time, Starray with the Austrian Right would be altogether excluded for the present from the sphere of operations. Kray having just been induced by the false attacks of Ste Suzanne and St Cyr to strengthen Kienmayer, would be in no condition to oppose the real advance on his Left. The Prince de Reuss would be cut off and left in Switzerland.

It must always be a doubtful policy to oblige a general charged with the conduct of a campaign to adopt a plan other than that which he has himself originated and matured, even though it be manifestly better than his own. Recognising this fact, Napoleon, who might as First Consul have exercised considerable control over all the military movements, and who was quite convinced of the superiority of his project, nevertheless left Moreau to the undisturbed execution of his own conceptions; and operations commenced on the 25th April 1800.

French operations.

25th April.—Ste Suzanne's corps from Kehl pushed Kienmayer's posts into the Kinzig valley, and occupied the Rhine valley in front of that avenue.

St Cyr simultaneously passed at Brisach. One division pushed down the Rhine valley towards Kehl, as if to connect the two attacks. His other divisions advanced on Friburg, drove in the Austrian brigade there, and occupied the entrance of the Höllenthal.

Austrian movements.

26th April.—Kray at Donaueschingen heard of this. Kienmayer reported that he had been attacked by 40,000 men (as he was). Kray believed that the design was to force the Höllenthal and the Kinzig valley, and thus to gain the sources of the Danube.

Kienmayer's left brigade, under Giulay, occupied Waldkirch and the Höllenthal. The rest of his force was in the Kinzig valley. Kray reinforced him with 9 battalions and 24 squadrons from Villingen. To replace these he drew 9 battalions from Stokach. He drew in his extreme right under Starray by ordering it to move into the valley of the Murg, but it was still at a great distance.

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The two French corps remained in their positions.

27*th April.*—Ste Suzanne repassed at Kehl and marched for Brisach.

Friburg to St Blazien, 25. St Cyr from Friburg, ascending the mountain barrier on his right with his infantry, followed the paths leading on St Blazien, excepting one division which remained to block the entrance of the Höllenthal.

Basle to Lauffenberg, 24. The Reserve, directed by Moreau, debouching from Basle by the bridge-head there, one division was pushed up the Weiss to give a hand to St Cyr, and the other two divisions were directed on Lauffenberg.

28*th April.*—St Cyr came into communication on the mountains with the division of the Reserve, which had moved through the valley of the Weiss, and St Blazien was occupied.

The other two divisions of the Reserve forced and turned the passage of the Alle against an Austrian brigade intrenched there, which fell back towards Donaueschingen, halting at Bonndorf. The other Austrian posts along the Rhine, threatened by the French advance, withdrew to a position about Stuhlingen.

Kray ordered Giulay to withdraw his brigade through the Höllenthal, but to guard its inner gorge. Thus the present Austrian front towards

Neustadt to Stuhlingen, 15. the French was on the line Neustadt-Bonndorf-Stuhlingen, and to support this advanced line, reserves were moved from Villingen and Geisingen to Loffingen and Zollhaus. But Kienmayer was left in the Kinzig valley.

29*th*, 30*th April.*—The advanced-guard of the Reserve was at Thiengen —Main Body about Waldshut—Left towards St Blazien, which was occupied by St Cyr, whose left prolonged the line in the mountains. On the 30th Ste Suzanne entered the Höllenthal. On the night of the 30th Lecourbe had concentrated his corps on the road which runs along the left bank of the Rhine, a few miles above Schaffhausen.

1*st May.*—To cover the passage of the Right Wing, the Reserve advanced towards Schaffhausen. The advanced-guard forced the passage of the Wutach on the Schaffhausen road, while St Cyr, moving east from St Blazien, rested his right on Stuhlingen.

The Reserve finally halted near Schaffhausen.

The first battalions of the Right Wing passed the Rhine in boats, at two points, and moved up the river to Stein, where they covered the construction of a bridge, by which Vandamme's division passed, and pushed up the valley of the Aach to the Schaffhausen-Stokach road. The next

division that crossed made for an intermediate point of that road, where the Engen road joins it. The third division moved on Schaffhausen.

Thus Moreau's army, *minus* Ste Suzanne's corps, was united on the desired routes between the lake and the Danube, opposite the left of Kray. Ste Suzanne's leading division, having passed the Höllenthal, was at Neustadt.

2*d May.*—Moreau, apprehensive that the Austrians in Switzerland might cross Lake Constance and fall on Lecourbe, brought his Reserve closer to his Right by placing it in the space Thayngen-Schaffhausen, while the Right Wing occupied the space between the small bay of Constance and the Engen road, and St Cyr's corps extended from Thayngen to Stuhlingen.

On the other side, the Austrian outposts had quitted the banks of the Rhine when Lecourbe crossed, drawing towards the advanced line which stretched from a point north of Thayngen to Steisslingen (near Stokach on the Schaffhausen road); Giulay's brigade, pushed from Neustadt by Ste Suzanne's advance, moved to Bonndorf—the troops at Bonndorf to Zollhaus—the troops at Zollhaus to Geisingen—main body and reserves at Geisingen. Kray meant to unite next day at Stokach.

3*d May.*—The French Right Wing moved on Stokach in two columns, with two brigades on its left in the Aach valley, connecting it with the Reserve which moved on Engen. St Cyr to the left of Engen extending towards Zollhaus.

Lecourbe, with about 20,000, attacked and enveloped the division on the left of the Austrian line, about 9000 strong, driving it through Stokach, with great loss, on the roads of Mosskirch and Memmingen. Immense magazines were taken in Stokach.

Stokach to Engen, 12.

While this passed on his left, Kray arrived with his Main Body at Engen. The right of the Austrian advanced line near Thayngen was driven in on Engen by the superior weight of the Reserve and the brigades in the Aach valley. Kray had now about 45,000 men in position from Engen to Zollhaus. The French attacked the position before Engen, while St Cyr engaged the troops at Zollhaus. The battle was severe and well contested, and was not decided at nightfall. But the news from Stokach alarmed Kray for his communications, which the capture of Mosskirch by Lecourbe would sever, and he retreated.

The armies concentrating towards the threatened point.

Austrians lose one line of communication by Stokach.

4th May.—Covered by his rear-guard, Kray withdrew his troops on Tuttlingen, Liptingen, Mosskirch. A strong position existed in front of the road Tuttlingen-Mosskirch, behind which the army withdrew to Mosskirch.

Starray was on the march for Hechingen.

Kienmayer was moving to join Kray by the left bank of the Danube.

This day Moreau reinforced his right.

Reserve on the Engen-Stokach road.

St Cyr at Geisingen.

Ste Suzanne at Donaueschingen.

5th May.—Kray with about 40,000 men took position at Mosskirch. The remains of his Left, beaten at Stokach, had joined him, but his Right at Tuttlingen was still distant, and Kienmayer and Starray were still beyond the Danube.

The French Reserve and Right (50,000) attacked Kray, who, driven from Mosskirch, retired towards Sigmaringen. Anxious for the safety of his Right, which had been left at Tuttlingen, he halted, and, throwing forward the right of his line, drove the French from the road Tuttlingen-Mosskirch, thus reopening communications with his Right and with Giulay's brigade, which latter joined him. With his Right thus reinforced by these new troops, he attacked the left flank of Moreau and attempted to seize the Stokach road, but he was himself outflanked by one of the rear divisions, and withdrew to another position behind Mosskirch.

This battle was indecisive and the losses equal; but St Cyr (who had been called towards Liptingen, to be near Moreau, and to hinder the junction of Kienmayer) was now approaching the main army; and Ste Suzanne, who entered Donaueschingen on the 4th, came into line on St Cyr's left towards Geisingen; therefore Kray resumed his retreat. He passed the Danube on a line of which Sigmaringen was the centre.

6th May.—Kienmayer joined Kray at Sigmaringen, and the Austrian army moved towards Rietlingen.

7th May.—Austrians to Biberach. This movement, deviating from their object, Ulm, was probably made in order to evacuate the magazines at Biberach and Memmingen.

Moreau continued to manœuvre by his right—not to cut the enemy from Ulm, which he could not now prevent them from reaching, but

to divide them from Munich and from Reuss's army in Switzerland.

Here the campaign ceases to exemplify the particular condition which it was selected to illustrate. For the French front, which up to the battle of Mosskirch had been perpendicular to the roads leading back to Schaffhausen, was now, as it faced the Danube, parallel to the road Biberach-Stokach-Schaffhausen. Hence, not being covered by a river (as the Austrian line to its base was by the Danube, as soon as the army reached Ulm), Moreau's communications were even more exposed than Kray's.

COMMENTS.

The effect of the angular base of the French is visible on the dispositions of the Austrians even before the campaign commenced. Had the French only possessed the straight Rhine frontier up to Basle, as formerly, Kray, under no particular apprehensions for his left flank, might have posted his main body and reserves at points whence they could with equal facility have reinforced any of the detached bodies guarding the defiles on whom an attack might have been made; but, as the case really stood, he was obliged to dispose his main body and reserves far away to his left rear on the line Villingen-Donaueschingen-Stokach, in order to be ready to meet an attack on that side, which, if unopposed, would sever his communications.

The plans of campaign of Napoleon and of Moreau had this in common, that both aimed at the communications of the Austrians by an advance from the extreme point of the angular base; but in the mode of effecting the common object they differed materially, and the difference was the result of the individual characters of the projectors. When Napoleon's glance was once fixed on the point where decisive success lay, the obstacles in his way lost, in his mind, much of their importance, and were viewed merely as difficult steps to his object. Hence, though he neglected no provision nor precaution which prudence and experience could suggest for overcoming them, yet he never allowed them to assume an importance sufficient to deprive his plan of campaign of its fullest significance. Disregarding, therefore, the fact that he must throw his army entire at one point across a great river which was observed by the

enemy, he looked only to the great results that must flow from the advance of that army, concentrated, upon the vital point of an enemy whose forces would still be in greater or less degree dispersed.

Moreau, cautious and forecasting by nature, saw in his mind's eye the Austrian army assembled opposite Schaffhausen to oppose his passage—baffling the whole plan. All his precautions, therefore, were framed to obviate the danger of crossing in face of the enemy. Only one corps was to cross at Schaffhausen—another, the Reserve, was to cross at Basle to cover the passage; this entailed the movement of a third through the mountains to cover the long flank march of the Reserve along the river; and a fourth was to make a false attack in order to detain the Austrian troops in the defiles as long as possible, and prevent them from reinforcing the left.

The great objection urged against this combination is the long flank march of the Reserve between the mountains and the river; but this appears to diminish on an inspection of the map, for no road traverses the Black Forest leading into the space between Basle and Waldshut, by which a large Austrian force could move with artillery so as seriously to menace the French. Any attempt against them which the country admitted of would probably be checked by St Cyr, who would also flank, at St Blazien, any attempted movement on Waldshut. It was sufficiently certain, therefore, that the Reserve would make good its march on Schaffhausen, would cover the passage there, and would be ready to move forward in conjunction with the Right.

The advantages to be expected were by no means so decisive as would follow the successful execution of Napoleon's plan. For only two corps would be ready at once to operate on the decisive point, and their subsequent movements must be hampered by the necessity of waiting for the Centre and Left. Whereas Napoleon would have assembled the whole army ready to fight with a superiority, and a victory would at once open the way into the valley of the Danube. And, granting that the Rhine were safely passed, no French general could desire better than that Kray without Starray should be forced to give battle in a flank position to the whole French army.

It is probable that Napoleon's plan would have miscarried in the hands of Moreau; but looking at other achievements of Bonaparte,—his descent

on the Austrian rear in Italy a few weeks later—his decisive march to the Danube in 1805 on the other side of the present theatre—and his march to the Saal, already described,—it is not to be denied that, executed by himself, the design might have fulfilled all his expectations.

The false attacks of Ste Suzanne and St Cyr had the effect not only of detaining Kienmayer's 16,000 men in the defiles, but of causing Kray to move thither 6000 or 7000 additional troops. But they had no influence in detaining Starray, who was already so distant on the right that it would be impossible for him in any case to join Kray in time for the first operations. We find, then, that at first 49,000 French were employed in detaining less than half their number; and when St Cyr had joined the Reserve, still Ste Suzanne did not probably neutralise a greater number of the enemy than his own corps. The detached operations of Ste Suzanne appear, therefore, dangerous and fruitless.

On the 28th April, Kray might have divined the real design of Moreau. He must have known that Ste Suzanne had repassed the river; that St Cyr was in the mountains; that the reserve had driven in his outposts on the Upper Rhine; and he should have learnt from Reuss that Lecourbe was moving on Schaffhausen. Putting these pieces of information together, the design against his left was apparent. He might have met it in two ways: he might have fallen on St Cyr with his reinforced right, thus utilising the troops which he had falsely moved in that direction; or he might have concentrated his army between Engen and Stokach before the French left wing could have joined the other corps,—ready to give battle with his whole force, and closing the space between the lake and the Danube by which Moreau desired to penetrate. That he made no counter-attack on St Cyr might be owing to the difficulties of the country; or it may be a confirmation of what has been already asserted in a former chapter—that a general, threatened in his communications, thinks of protecting them rather than of making a counter-attack on his adversary. But the second plan—the concentration on the left—was quite practicable; and had it been executed, Moreau, *minus* Ste Suzanne, advancing on Engen, would have met Kray, *minus* Starray. And as Starray's absence was owing to distance, and not to Moreau's precautions, the French general's combination was a failure, inasmuch as it deprived him of the support of his Left without any corresponding advantage.

As matters actually happened, Kray, not interpreting events rightly, neglected to call in Kienmayer, and was outnumbered on the 3d May, not on his Centre or Right, where he fought a drawn battle, but on the vital point—namely, his Left, where Lecourbe easily defeated the inferior force opposed to him. In order to turn the situation to the fullest account on this day, Moreau should have borne in mind that the important business was to reinforce and push forward his own right, for the object of the campaign was to cut Kray from Ulm. Instead, therefore, of drawing troops, as he did, from right to left, the reverse of that process would have been more consonant with the general design. St Cyr should have been weakened to send troops to the Reserve, the Reserve should have despatched troops to the Right, and St Cyr, instead of being seriously engaged on a point where nothing decisive could be effected, should have been kept back, and restricted to the task of covering the communications with Schaffhausen against a counter-attack. Kray, dislodged by the advance of Lecourbe, would have been forced to retreat without a battle, and ought to have been anticipated at Mosskirch, when he would have been in great danger of being cut off from Ulm. As it was, he made good his retreat; and having gained Mosskirch, while the French centre and left were still westward in the Forest, he was secure of reaching Ulm.

In this campaign, then, is exemplified the use of an angular base in causing the enemy to form front to a flank. Kray was obliged at Moreau's approach to front southwards parallel to his communications. The French front meanwhile completely covered the line to Schaffhausen and advanced securely and confidently, while the Austrians were hastening, with doubtful purpose and in straggling array, towards the menaced quarter. Though the battle of Engen was indecisive, yet the direction of the French attack compelled Kray to retreat, and the whole of the Black Forest was lost to the Austrians, though they had not sustained a defeat. If such results followed from the imperfect combination of Moreau, it may be imagined how complete would have been the success of Napoleon's plan. And by supposing that the French had possessed a fortified bridge at Schaffhausen, by which they could have passed at once to the other bank with certainty and security, it may be perceived how important an influence may be exercised by the possession of an angular base.

So far, then, as may be, without reference to Obstacles, the various

CAMPAIGN ON THE DANUBE, 1800
FIRST PERIOD

SCALE OF MILES

Strasbourg
Kehl
Renchen
R. Kinzig
R. Rhine
R. Kintz
Brisach New
Brisach Old
Waldkirch
Friburg
Hollenthal
R. Dreisam
Villingen
Rothweil
Hechingen
Ulm
Riethgen
Biberach
Sigmaringen
R. Danube
Donaueschingen
Geisingen
Tuttlingen
Mosskirch
Meemmingen
Lipfingen
Neustadt
Loffingen
Bonndorf
Zollhaus
Engen
Aach
Stokach
S. Blazien
Stuhlingen
Schaffhausen
Thayngen
R. Aach
R. Wutach
R. Alb
Thiengen
Waldshut
Stein
L. CONSTANCE
Basle
Seckingen
Lauffenburg
R. RHINE

cases have been enumerated in which an advantage of a certain kind is obtained over an enemy by forcing him to form front to a flank. This may be the result of *manœuvres* between armies which were originally on parallel fronts, as was the case in the campaigns of Novara and Salamanca, when *the direction of the roads in the theatre* enabled one general to assail his adversary's communications without exposing his own. It may be the result of *a prompt assumption of the initiative*, as at Jena, where the communications of the offensive army were secured by menacing the adversary's; and in this last example of 1800, *the configuration of the frontier line* was made subservient to the same end.

CHAPTER VI.

THE CASE OF AN ARMY PROLONGING ITS MOVEMENT AGAINST THE ENEMY'S COMMUNICATIONS BY PLACING ITSELF ACROSS THEM.

In discussing the operations of Radetzky in 1849, it was said to be more judicious in that general to advance as he did upon the road Mortara-Novara, than to throw himself across the road Novara-Vercelli; because, in the second case, the Sardinian army, being totally intercepted, might take the resolution of marching to the Po across the Austrian communications with Pavia, and would thus not only extricate itself, but inflict some passing injury upon its adversary. But there are cases where a general, having succeeded in turning the flank of the opposing line, has not been content with compelling the enemy's forces to form front to that flank, but has thrown his army across their line of retreat. In two notable instances this was done by Napoleon—namely, at Marengo and Ulm—and once by Moreau in 1800 on the Danube, subsequent to the operations described in the last chapter. Were these, then, exceptional cases? or were the French generals, in operating thus, giving the enemy that chance of escape which Radetzky would, in the case supposed, have offered to the Sardinians?

As it is impossible that hostile armies can be operating from the same base, it follows that an army which throws itself across the communications of its adversary cannot directly cover its own. If the two bases are parallel, then the army operating thus must make a complete countermarch, and must ultimately front its own base, with which it can retain communication only by a circuitous route; while the adversary, by a flank or oblique movement, can render the interception reciprocal—and

taking the most favourable case, namely, that the army thus operating starts from a base parallel to its adversary's line of retreat (as the French base from Basle to Lake Constance in 1800), it must, in throwing itself across its enemy's communications, *form front to a flank*, and so far endanger its own. In that case a great opportunity of improving his position is offered to the adversary, since, by traversing, in a retreat towards his own base, the line by which the enemy's army advanced, he will probably re-establish his own communications by his flank, while he severs the enemy's, and will thus reverse the position.

It may happen that the connection of an army with its base is by a single road. If the base be a point only, not a line—as, for instance, a harbour where a landing has been effected—this will, most likely, be the case. And even when a great army is operating from an extensive base, the nature of the intermediate country may be such as to force the principal routes to meet in some defile which forms the only practicable thoroughfare. Had the Allies in 1813 succeeded in their design of throwing their army across Napoleon's rear, west of Leipsic, he would have had no alternative but to break through or be ruined. For the Harz Mountains on the one side, and the Thuringian Forest on the other, had narrowed the channel by which he communicated with France to the single road Leipsic-Erfurth-Hanau. See Map No. 2.

In general, however, an army thus cut from its base will have two or three alternatives. 1st, It may march directly on the opposing force, and try to drive it off the line or rout it; 2d, It may march to one flank across the communications of the enemy; 3d, It may attempt by a march to the other flank to avoid a collision. And it must be remembered that these flank marches entail none of the usual risk, which is, that they uncover the communications; for an army that has lost its communications is at any rate free to move in all directions, and cannot well change its position for a worse.

It will generally be very difficult for a commander who aims at his adversary's rear, to know how soon the enemy may be informed of his design, and how promptly steps may be taken to frustrate it. He will, therefore, when practicable, direct his movement so far to the rear as to insure the interception of the enemy. It is to be presumed that he will, on reaching the point aimed at, be ignorant of the movements of the

intercepted army, and must either await its approach, or advance to close with it. The only certainty he can feel will be that the enemy cannot pause or delay, but must act at once as soon as they can concentrate their forces.

On the other hand, the intercepted commander must directly experience all the doubt, confusion, and discouragement which follow the loss of communications. If he evades the assailing force by marching round its outward flank, he must undergo the humiliation of abandoning territory without a blow. If he marches straight upon it, a victory may retrieve all, but a repulse will be ruin. If he marches upon its communications and succeeds in anticipating it there, he may reverse the position.

CAMPAIGN OF MARENGO.

See Map No. 5.

Austrian positions.

In May 1800, the Austrian army in Italy, numbering 100,000, under General Melas, was engaged in three different operations. 1st, A corps of 25,000 men under Ott was besieging Genoa; 2d, Between the Alps and the sea another corps under Elsnitz was covering the siege from the efforts which a French corps, 14,000, under Suchet, was expected to make for the relief of the place, and an Austrian success there might be expected to transfer the war into French territory; 3d, The remainder of the army was spread along the foot of the Alps watching the issues from the Apennines to the St Gothard. The Austrian lines of communication with the base on the Mincio have been already specified (page 67).

See also Part ii. ch. 3.

Object of Napoleon.

Napoleon's object was to descend into Italy by the St Bernard, with 35,000 men, drive back the portion of the Austrian line north of the Po (about 10,000 strong), and enter Milan, where Moncey's corps of 15,000, which had left Moreau's army on the 10th May, would join him by the St Gothard. If this design could be concealed till he had thrown a force across the Po at Piacenza, the Austrian army would be cut from the Mincio; and the concentration of their forces which must precede their subsequent movements would relieve Genoa, and leave Suchet free to form a junction with its garrison.

Ivrea to Milan, 70. Ivrea to Turin, 33.

On the 24th May the head of the main French column issued from Ivrea. Here branch the roads to Milan and Turin. Lannes's division, forming the advanced-guard, was pushed along the Turin road.

Meanwhile, on the 22d May, the head of another French column, under Thurreau, had shown itself from the Mont Cenis on the Susa road. It was in reality only 4000 strong, but it might be the advanced-guard of the French army; and so the Austrian general judged it to be, while he considered Lannes's division merely as a detachment employed for the purpose of making a diversion. On this false calculation he placed the greater part of the force of his Centre, assembled round Turin, on the Susa road, and sent only a division to oppose Lannes on the side of Ivrea. Susa to Turin, 33.

26th May.—Lannes drove back the Austrian division and advanced to Chivasso, where he seized boats as if for the passage of the Po. Feints on Turin cover the advance on Milan.

27th.—The rest of the French army began the movement from Ivrea towards Milan.

28th.—Lannes again attacked the Austrian division, and immediately afterwards began to move towards the Ticino on the Pavia road.

28th to 30th.—The main French army under Napoleon pushed the Austrians from the defensive lines of the Sesia and Ticino..

29th.—Melas learned the advance on Milan, but believed the Austrians on the Ticino under Wukassowitch would check it.

31st.—He prepared to advance with the troops of the centre (about 20,000), crossing the Po at Casale, and cutting the French communications at Vercelli, while the same movement would isolate Lannes from Napoleon. But on the same day he learnt the reverses of Kray on the Danube, the retreat of Wukassowitch beyond the Adda, and the arrival of the head of Moncey's column on the Ticino. He therefore felt the necessity of assembling his forces before attempting to break through the formidable array opposed to him on the Ticino, and, suspending the advance, gave orders for a concentration round Alessandria. Elsnitz was to quit the Var and march on Asti, leaving rear-guards to close the Apennines against Suchet. The forces covering Turin were to wait there till Elsnitz's column should have reached its destination, in order to protect its march from the French on the Mont Cenis, and were then to move on Asti also. Ott was to raise the siege of Genoa, and hasten with his corps to seize the important point Piacenza and defend the line of the Po. But Ott awaited the capitulation then pending. Austrians, threatened in rear, obliged to concentrate.

2d June.—Napoleon entered Milan, and there awaited the arrival of

French astride Austrian communications.

Moncey's forces, which, delayed by the difficulties of the route, did not all assemble on the Ticino till the 6th.

6th June.—Lannes's and Victor's divisions passed the Po at Belgiojoso.

7th June.—Lannes and Victor, turning westward, passed Stradella.

Murat passed near Piacenza, and took the place.

Duhesme passed at Cremona.

Meanwhile the movements of the Austrian corps under Elsnitz and Ott were these:—

3d June.—Elsnitz, executing Melas's orders of the 31st, was retreating on Ormea.

5th June.—Two of his brigades were cut off by Suchet in the Apennines.

7th June.—He reached Ceva with only 8000 of his late force of 18,000 men.

On the 4th June Genoa capitulated.

Genoa to Tortona, 35.

5th and 6th.—Ott, placing a garrison in Genoa, sent a brigade of infantry towards Piacenza by Bobbio, and marched with the rest of his corps on Tortona for Piacenza.

7th and 8th.—He reached Tortona.

Tortona to Montebello, 15.

9th.—Continuing his march on Piacenza, he encountered Lannes and Victor at Montebello, was defeated, and driven back upon Alessandria.

10th, 11th, and 12th.—Napoleon awaited the movements of the enemy in the following attitude:—

The four divisions of Lannes, Victor, Murat, and Desaix, 28,000, were assembled about Casteggio.

Moncey's force on the other bank of the Po guarded the line of the Ticino from any attempt Melas might make to break through.

The rest of the French army was also on the left bank of the Po employed in pushing Wukassowitch back to the Mincio, in blockading the garrisons of Austrian forts in Lombardy, and in guarding the communications between the Ticino and the St Bernard.

12th.—Melas's army was assembled round Alessandria.

13th.—Napoleon, impatient to learn the movements of the enemy, crossed the Scrivia, pushed his advanced-guard to the Bormida, and detached Desaix with a division to seek intelligence towards Rivalta.

14th.—The Austrians issued from their bridge-head on the Bormida, and

fought the battle of Marengo. The French were at the end of the first period of the battle driven back to S. Giuliano, but the return of Desaix from Rivalta changed the fortune of the day, and the Austrians were driven in rout over the Bormida.

15*th*.—Melas capitulated, abandoning the country and its fortresses as far as the Mincio, but saving his troops. For Napoleon, considering that Melas's army was yet formidable, and might in another effort succeed in breaking through his cordon, permitted them to pass.

COMMENTS.

Ivrea is an example of the importance of particular points without regard to their capability of defence. The fact that from thence there was a road to Milan, whither Napoleon wished to go, and another to Turin, whither he desired Melas *to believe* that he wished to go, was of great moment. For, so long as Lannes threatened Turin, so long was the march on Milan screened.

Thurreau's force, being entirely separated from the main army throughout the operations, was useful only as leading the enemy to a false conclusion. But its value in that respect was incalculable. There were sufficient Austrian troops round Turin to check Thurreau and crush Lannes, thus laying bare the rear of the French army. But the road of the Mont Cenis was both more practicable and more direct than that of the St Bernard; moreover, Thurreau had artillery, and Lannes, at first, had not, for his guns had been delayed by the difficulty of passing the Austrian fort of Bard. It was but a natural error, therefore, for Melas to believe that Thurreau was backed by the whole French army.

The critical part of Napoleon's movement lay between Ivrea and the Ticino. For, during that march, his communications were by the St Bernard, and an advance, such as that which Melas intended on the 31st May, would have cut off his retreat. But on passing the Ticino, he not only gained the addition of Moncey's force, but a new line of retreat, in case of need, by the St Gothard.

Next what he had most to fear was a speedy concentration of the Austrians. Against this he might confidently count on the reluctance which Melas would naturally feel to withdraw his forces from Genoa and

the Var, whereby the fruits of the whole campaign would be abandoned. Moreover, the time which must elapse between the transmission of orders from Turin or Alessandria, and the assemblement of the Austrian corps on the Po, could not be less than five or six days. Melas actually ordered the concentration on the night of the 31st May. Ott probably received the order on the 2d June. Had he obeyed at once he would have reached Montebello on the 7th instead of the 9th. On that day Lannes was across the Po and moving by Stradella. It was therefore a question of a few hours, whether the Austrians should or should not close the line of the Po between Casale and Piacenza against the French, and so secure their own retreat.

This crisis passed, we find Napoleon dividing his army. One half only is on the south of the Po; most of the remainder is employed in guarding the communications. And here is seen the danger of this kind of operation. For Melas's army of 32,000, with superior cavalry and artillery, was assembled at Alessandria on the 12th; on the 14th it might have broken through Moncey's feeble cordon and have reached Milan while Napoleon was seeking it on the Bormida.

There was a special circumstance in this campaign which should have induced Napoleon to bring his whole army to the south bank. For if Melas moved through Milan he would leave the country south of the Po clear for Napoleon to establish another and better communication with France by the south of the Apennines, and, moreover, a junction with Suchet would be effected, and the territory which was to be the prize of the campaign would be lost to the Austrians. But Napoleon could not be satisfied to let the enemy escape even at such a sacrifice of territory, and therefore it was that he left the Ticino guarded. But there was another alternative open to Melas. He might not only retreat by the north of the Po, but by the road from Alessandria to Genoa; and he actually contemplated the movement, expecting to maintain himself there with the aid of the fortress, of the strong position in the Apennines, and of the English fleet. The prisoners captured by Lannes at Montebello would inform Napoleon that Genoa was now Austrian, and that a retreat thither was offered to the foe. Therefore it was that his eager and grasping ambition led him to seek a superior enemy in the great plain of Marengo, a field altogether favourable to that enemy, who was stronger

in cavalry and artillery; and therefore it was also that the victory was further jeopardised by the detachment of Desaix towards Rivalta.

Looking at the position of the French army throughout this short campaign, it is evident that Napoleon might have been obliged to fight an equal enemy in a situation where, in case of defeat, he would have been cut off from the St Bernard (which, bad as it was, was the best line of retreat he possessed), and must have retired by the St Gothard at the sacrifice of his artillery. Such must have been the result had Melas sought and defeated him north of the Po, or had he been beaten at Marengo. His confidence was justified, not by the excellence of his precautions in case of defeat, but by the calculations which assured him that his most critical movements would be unmolested.

CAMPAIGN OF 1805.

The Austrians wished to dispose their own forces in Germany on the defensive while awaiting the junction of the Russian army. See Map No. 7.

To this end the Austrian army, nominally commanded by the Archduke Ferdinand, but really directed by General Mack, and numbering 84,000, marched through Bavaria to Ulm. Covered in front and on the right by the mountains of the Black Forest, Mack probably expected to maintain his position against any available French force till the Russians should arrive; and, with Ulm, he would secure the grand primary object in all wars between France and Austria in Germany, namely, the possession of the valley of the Danube.

Taking the Austrian base as extending from Egra on the north to Steyer on the south, the army at Ulm had three main lines of retreat—namely, that of Nuremberg north of the Danube; that of Ratisbon along the river; and that of Augsburg-Munich south of the Danube. Austrian base and communications.

Napoleon's object was to interpose between Mack and the approaching Russian army, and to destroy the Austrians while thus isolated. Napoleon's object.

His different corps were thus directed from the Rhine on the 26th September:—

The cavalry under Murat, supported by part of Lannes's corps, entered the defiles of the Black Forest, pushing through to Freudenstadt, Roth- Feints on the Austrian front

cover the advance against the flank.

weil, Neustadt. This was to induce Mack to believe that the French army would advance in that direction.

March of the French columns.

Lannes	passed the Rhine at	Kehl,	moved on	Stuttgart-Neresheim.	
Ney	,, ,,	Carlsruhe,	,,	Stuttgart-Heidenheim.	
Soult	,, ,,	Spire,	,,	Heilbronn-Ellwangen.	
Davout	,, ,,	Mannheim,	,,	Neckar-Els-Oettingen.	
Marmont	,, ,,	Mayence,	,,	Wurzburg-	Eichstadt.
Bernadotte,	from	Hanover,	,,	Wurzburg-	Eichstadt.
Bavarian corps,	,,	Bavaria,	,,	Wurzburg-	Eichstadt.

Total, 180,000.

The columns of Lannes, Ney, and Soult were masked by the cavalry of Murat, which skirted the Black Forest, and occupied the defiles leading from Ulm to the Stuttgart-Heidenheim road.

The next movements to the Danube were:—

French form front to the Danube.

Ulm to Ingolstadt, 77.

Right Wing,	Ney, Soult, Lannes, Murat, The Guard	on	Donauwerth.
Centre,	Davout, Marmont	,,	Neuburg.
Left,	Bernadotte, Bavarians	,,	Ingolstadt.

Austrians change front to the Danube.

When Mack learned the approach of the French army to the Danube, he changed front to the right on that river—Left at Ulm, Centre at Gunzburg, Right at Rain.

6th October.—Soult seized the bridge of Donauwerth.

French cross Austrian communications,

7th October.—Murat passed there, forced the Lech and moved on Rain.

The Austrian Right (lately the rear-guard), under Kienmayer, fell back on Aicha.

Davout and Marmont issued from Neuburg towards Aicha.

8th October.—Soult from Donauwerth towards Augsburg.

Ney up the left bank of the Danube to Dillingen.

and close upon the enemy.

Murat and Lannes moved up the right bank, and at Wertingen defeated an Austrian corps which was marching to support the Right.

Kienmayer, far outnumbered by the approaching corps, fell back to the Iser.

9th October.—Soult at Augsburg.

Marmont at Augsburg.

Davout moved by Aicha.

Murat at Zumarshausen.

The Russian army had passed Lintz on the Danube 180 miles east of Munich.

Mack now changed front to the right, thus facing his base.

Right towards Memmingen.

Centre between Gunzburg and the Iller.

Left at Ulm.

Austrians change front to the proper rear.

French movements:—

Bernadotte and Davout on Munich.

Soult by Landsberg on Memmingen.

Lannes, Murat, and Marmont, under the Emperor, moved on Ulm by the right bank.

Ney, on the other bank, was reinforced to 40,000. He was ordered, 1st, To close the roads to the Bohemian frontier; 2d, To cover the French communications with Wurzburg against an irruption of the Austrians from Ulm; 3d, To approach and mask Ulm by closing the issues from that town on the left bank. At the same time he was to secure his communications with the Emperor by occupying the bridges on the Danube as he moved up the bank.

See Map No. 4.

In order to give coherence to the forces immediately opposing Mack, and to leave himself at liberty to move towards the Russians with the rest of the army, Napoleon placed the corps of Lannes, Ney, and Murat under Murat. That general, misconceiving the situation, and the object of his chief, ordered Ney to bring his forces across to the right bank. Ney only obeyed so far as to send one division.

In a council of war the Austrians determined that the Archduke Ferdinand, with 25,000 men, should open a passage to the base by the route Heidenheim-Nordlingen. Mack held Ulm with the rest to protect the Archduke's movement, expecting afterwards to be able to throw himself on the other flank into the Tyrol.

Austrians attempt to traverse the French communications.

On the day when the Archduke's movement was begun, one of Ney's divisions had passed to the right bank, another had left Gunzburg to join it; Dupont's was at Albeck. On the 11th October, Dupont, moving towards Ulm with 7000, met the Austrian corps, and after a long conflict,

in which he inflicted great losses on his adversary, he fell back on Albeck, and thence on Langenau.

12*th October.*—Napoleon at Augsburg heard of the movement of Ney's corps to the right bank, and directed the following movements :—

The Guard on Gunzburg.

Marmont on the Iller.

Lannes opposite Elchingen on the right bank.

Soult to Memmingen.

Mack, learning Dupont's retreat, ordered a corps to pursue him, while another moved on Elchingen to close that issue on the flank of the Archduke's column against the French.

13*th October.*—Soult captured 5000 men of the Austrian right wing in Memmingen; and an Austrian division which had come from Ulm to reinforce that point retired by Kempten to the Tyrol.

Elchingen to Ulm, 7.

The Austrian corps at Elchingen attacked and burnt the bridge there, driving the French to the other bank.

Ney rallied his two divisions on the right bank, and prepared to lead them back across the river.

Lannes's corps was to support Ney.

Marmont to relieve Lannes.

Soult to Achstetten to close the Biberach road (by which Mack might gain the Tyrol).

Dupont, who had quitted Albeck, to return thither.

French concentrate round Ulm.

14*th October.*—Ney having restored the bridge of Elchingen, forced the passage, and drove the Austrian corps into Ulm.

15*th October.*—Lannes and Murat passed the bridge of Elchingen.

Marmont replaced Lannes on the Iller.

Soult approached Ulm by the Biberach road.

The Austrian corps which had fought before Albeck was intercepted at Neresheim by Dupont and Murat, and capitulated. The Archduke, who had joined this corps with 3000 cavalry from Ulm, made good his retreat by the Nuremberg road.

Mack capitulates.

19*th October.*—The Austrians in Ulm, 30,000, capitulated.

COMMENTS.

The line of the Mayne afforded to Napoleon the rectangular base necessary for securely operating against the Austrian flank or rear. The columns advancing from Wurzburg covered the roads on which they moved, and those which came from the Rhine, though they were moving to a flank, could always, if threatened from Ulm, form on the same front as the others, and covering roads which led towards the angle of the Rhine and Mayne. For instance, Ney found at the successive points of his march, namely, Stuttgart, Reichenbach, Goppingen, Heidenheim—and Lannes at Stuttgart, Schondorf, Aalen, Nordlingen—roads leading directly on Mayence or Wurzburg. The whole movement might have been made from those two last-named places; but to have assembled the army there would have betrayed the design, which was concealed, or rendered doubtful, by the approach of the right wing from the Upper Rhine.

Direction of the French march exactly calculated.

When Mack changed front to the line of the Danube from Ulm to Rain the French army was still entirely beyond his flank. Napoleon's movement had therefore been directed exactly on that part of the Austrian rear where Mack's retreat, had he attempted it, would have been completely intercepted.

So far, then, the operation had been assured. But now the difficulties began; for the Austrians might, on finding themselves intercepted on their main line to Ratisbon, retreat either by Augsburg-Munich, south of the Danube, thus evading their enemy, or by the line Heidenheim-Nuremberg, crossing his communications. It was to guard against both contingencies that Napoleon now made the change of front to his right, which was accomplished on the 9th October, by which the Austrians, with the exception of Kienmayer's corps, were completely intercepted. But this was not effected without exposing the French communications, which now lay in the prolongation of the right flank towards Wurzburg and Mayence.

Operations of 1805 compared with those of 1800.

The situation is almost the same as that on the Po, when Napoleon advanced towards Marengo, except that he now possessed a great superiority of force over his adversary. Now, as then, the wings of the army were separated by a great river. By a rapid advance he was trying to close with his adversary, who, as at Alessandria, was resting on a fortress.

Soult's corps, like Desaix's, was seeking to cut off his retreat on one flank; Ney's corps, like Moncey's, was covering the communications on the other. And in the earlier course of the two campaigns a similarity is evident. The line of the Mayne corresponds to the frontier of Switzerland, affording, with the Rhine, a rectangular base; the advance from Wurzburg to the march of Moncey; the approach of the right wing towards the Austrian front, to the feint of Thurreau, but with the difference that Lannes and Murat were not prevented, as Thurreau was, from joining the main body. This circumstance, joined to the excellence of the communications, and the complete security of the flank march, which had been in the former campaign so critical, gave to the later operations a much greater degree of certainty, security, and completeness. On the other hand, the much greater extent of the Austrian base in Germany than on the Mincio rendered the intercepting movements also much more extensive; and, powerful as was Napoleon's army, the effort to bar all the roads by which the Austrians could reach their base, had so attenuated his line, that if Mack had marched on Albeck with his whole force instead of a single corps, he would have broken through the toils. Jomini says of a concentrated retreat on that side by the Austrians, "This movement was the more to be feared, since the enemy, in directing his march on our rear, would have seized our parks, our depots, and our means of transport."

Consequences if the Austrians had made a concentrated effort on the side of Nuremberg.

CAMPAIGN OF 1800 IN GERMANY.

See Map No. 4.

The first period of this campaign, which has already furnished an example (Part III. chap. v.), ended with the retreat of the Austrians into Ulm, and behind the Danube. Moreau now attempted various manœuvres to dislodge Kray. On the 20th May he directed the Right Wing on Augsburg, and retired the Left and Centre, drawing them southward. Kray resolved to attack Richepanse's corps, which was posted between the Danube and Iller, to cover the communications with Schaffhausen. But the enterprise (5th June), badly combined, failed. Richepanse, reinforced in time, repulsed the attack, and the Austrians retired into Ulm.

Austrian attack on French communications fails.

Moreau now advanced to the Danube. He was still based on Schaffhausen, with which he communicated by Memmingen; and his right,

moving from Augsburg towards Blenheim, was thrown forward to an extent that would have dangerously compromised his communications under ordinary circumstances. But all Kray's attempts against Moreau's left, the vital point, had been defeated. Therefore Kray was restricted to the defensive, and Moreau could extend his right without imprudence; for he might assume, after late experience, that the attempts of Kray against his left would not succeed.

To dislodge Kray from the intrenched camp of Ulm, he resolved to throw his right over the Danube. He directed it from Augsburg on the portion of the river between Lavingen and Blenheim. Ulm to Blenheim, 35.

The Centre at Gunzburg.

The Left masked the passages from Gunzburg to Ulm, to hinder any offensive movement of Kray.

Richepanse's corps was placed at the confluence of the Iller and Danube, to cover the French communications through Memmingen to Schaffhausen.

Kray's army was about Ulm, except the corps of Starray, which was spread along the Danube as far as Donauwerth, to observe and prevent any enterprise against the communications.

16*th June.*—Starray's main force was at Lavingen with detachments at Gundelfingen and Donauwerth.

Lecourbe with the French Right was opposite Blenheim.

The Austrians had partially destroyed all the bridges down to Donauwerth.

18*th June.*—A French attack at Dillingen was repulsed; also one at Leipheim (above Gunzburg) by the French Left. But these attempts, though unsuccessful, had the effect of deceiving Starray as to the real point of attack, and of keeping his troops dispersed.

Reconnaissances had proved that the bridges of Kremheim and Blenheim had suffered least, and it was resolved to pass there.

19*th June.*—Two divisions of the French Right closed in opposite Blenheim behind a wood.

Centre moved towards the river.

Lecourbe's artillery silenced the Austrian guns in the villages.

A detachment swam across, followed by others on rafts, and established themselves in Kremheim. Sheltered by them, the workmen repaired the

bridge, and four battalions passed to make head in the villages against the enemy, till the bridge should be practicable for all arms. The divisions passed and captured three Austrian battalions which had come up piecemeal from Donauwerth.

Starray assembled 3000 or 4000 men at Hochstet.

Lecourbe, after passing, detached one brigade towards Donauwerth to cover his rear, and directed the rest on Hochstet. Starray was driven on Dillingen, and, by a second attack, behind the Brenz.

Austrian line of Ratisbon intercepted.

Moreau passed the Centre over during the night; and the Left was to join it on the morning of the 20th by Gunzburg if possible, but, if the enemy should be too strong there, two divisions were to move on Lavingen in order to cross with more certainty; one being left to mask Ulm and to keep up communication with Richepanse, who was then following the general movement to the right.

Kray left 10,000 men in Ulm, and drew his troops together, assembling them near Elchingen.

20th.—Kray having resolved to march round the enemy's right and so recover communications with Ratisbon, sent his park to Aalen for Nordlingen.

Park—Great train of carriages with heavy artillery, stores, baggage, &c.

Moreau had moved thus:—

Lecourbe on the road from Dillingen to Nordlingen.

Centre on the Brenz.

Left on Offingen to pass there, having been unable to pass at Gunzburg.

The detached division at Leipheim.

Richepanse towards Gunzburg.

Moreau was evidently quite unsuspicious of Kray's design, and had posted his troops to receive an attack down the Danube.

Kray marches round Moreau's outward flank;

21st.—Kray marched to Heidenheim.

French right at Dischingen.

Centre in second line.

Left—Brenz and Danube.

22d.—Kray to Neresheim.

Ulm to Neresheim, 35;

Moreau sent a reconnaissance to Neresheim, and discovered the retreat.

23d.—Kray on Nordlingen.

Dischingen to Neresheim, 3;

Lecourbe by Neresheim on Nordlingen, where he engaged the Austrian rear-guard.

24*th.*—Kray remained at Nordlingen, and marched in the night to Eichstedt.

25*th.*—Moreau followed to the Wernitz.

26*th.*—Kray passed the Danube at Neuburg.

He had thus recovered his communications with Ratisbon and Vienna.

and recovers his communications with Ratisbon.

COMMENTS.

When the armies fronted each other on the Danube, each was extended in the prolongation of the line by which it communicated with its base. Yet Moreau ventured to make an offensive movement with his right, or outer wing. He had concluded that, the enemy being by former repulses restricted to the defensive, *the reciprocity of the situation no longer existed.* For all the danger of the flank position lies in the risk of the adversary attacking the inner flank or wing. If it can be assumed that no such attack will be made, there is no more risk in operating from a flank position than is involved in the chance of a failure followed by a pursuit; nor need that necessarily entail the loss of communications on the part of the defeated portion of the army. Such was the reasoning on which Moreau based his operation.

His mode of executing it was uncommonly bold and hardy. So confident was he that Kray would make no counter-attempt on the southern bank against the French communications, after he felt the pressure on his own, that all the army, except Richepanse's corps and one other division, were thrown across the Danube, and the road to Schaffhausen was left absolutely uncovered.

Had Kray attempted to retreat by the southern bank to Munich, Richepanse and Ney's division would have delayed his march till the rest of the army had recrossed. But in the battle which would have ensued, each party would have fought with its face to its proper rear.

All Moreau's operations on the left bank were based on the assumption that Kray would come directly down the Dillingen road to break through. In that case his dispositions for obtaining the support of his other corps were extremely good.

Kray evaded both alternatives of action by marching round the outer

flank of the adversary. Had Moreau extended his right to provide against such a movement, he would have weakened his line beyond what he was willing to venture. We have seen that Napoleon never hesitated in such a case to throw for the whole stake; but the different modes of action are due to the difference in the characters of the two generals. Expecting Kray to attack in the valley of the Danube, Moreau would have thought it foolhardy to extend towards the Neresheim road.

By marching his park through Aalen, Kray freed the direct line to Nordlingen from Heidenheim of impediments; and at the same time the army, moving by that line, completely covered at Neresheim the march of the park.

MAP Nº 4.

CAMPAIGN OF 1800 IN GERMANY

SECOND PERIOD

CHAPTER VII.

GENERAL CONCLUSIONS FROM THE FOREGOING EXAMPLES.

THE operations which have been described supply certain grounds for judging the merits of any enterprise against an enemy's communications.

First, we learn that it is not sufficient to seize *any* point in the enemy's rear. The choice of this point is very important.

Direction to be pursued by an army that aims at its adversary's rear.

When armies are manœuvring near each other, and the operations are restricted to a narrow space, as in Radetzky's campaign, the assailant can determine with certainty the small area within which he will come in contact with the enemy, and he can so direct his march as, at the same time, to intercept and to close with him. When the Sardinians retreated from Vigevano, the Austrian general might feel assured that he would find them between Novara and Vercelli.

But when the turning movement is begun at a distance of several marches from the enemy, no such exact calculation can be made; and if the movement were directed straight on the position of the hostile army, the latter might, by a single march to the rear, evade the blow.

On the other hand, if the movement be directed against a point of the communications far to the rear, the assailant, on reaching it, must not only spread his forces over a space great in proportion to his distance from the hostile army, in order to close the lines which radiate from that army to its base, but must, by the obliquity of his march, leave a long line of communication open to a counter-stroke. The necessity of secrecy will generally prevent the assailant from making reconnaissances until the desired point is reached, and being therefore almost in the dark as to the adversary's movements, he cannot concentrate his army on any par-

ticular line with the certainty of meeting the shock there. Meanwhile the pressure on the communications will have informed the enemy of the general direction of the movement, which he may take steps to frustrate by moving in mass in a direction where there is no adequate force to oppose him.

As a recent example of the impolicy of aiming a stroke too far to the enemy's rear, Hood's operations against Sherman's communications in 1864 are notable. When the Federal general began his march from Atlanta to the Georgian coast, Hood was operating against the communications on the Tennessee river, 200 miles off. Sherman's march was thus left unmolested; whereas had the Confederates, while menacing his communications, remained near enough to be aware of his movements, they might have followed and harassed the march through Georgia.

To give the greatest effect to such an operation, the movement should be directed *not more than a march or two in rear of the rearmost point which it is calculated the enemy can reach by the time it is completed*, giving him credit for obtaining early intelligence and of retreating with promptitude when his resolution is formed, but also taking into account the motives which may induce him to delay to form that resolution.

Necessity of closing on the intercepted army.

Having reached the point aimed at, it is essential not to await the enemy, but to close upon him with all possible celerity. This will not only relieve the assailant from uncertainty, and give him the power of operating to the best advantage in any case that may occur, but will, by narrowing the arc on which his front is extended, increase his means of concentration, and also enable him to secure his own communications against an effort of the intercepted army to break through. Thus, when Napoleon had drawn his forces close around Ulm, his right under Ney covered the roads to Wurzburg from Mack; whereas when he first crossed the Danube at Donauwerth, his Right Wing, in order to protect to an equal degree the communications with Wurzburg and bar Mack's retreat, must have extended from Donauwerth to Nordlingen; an extension which would have so weakened it that the Austrian army could not have been effectually opposed there. The difficulties of the French were in proportion to the extent of the space they must occupy between the river and the Ulm-Nuremberg road.

Donauwerth to Nordlingen, 18.

When part only of the enemy's army is intercepted, it will be better to

close on the intercepted portion than to follow the other. We shall see an example of this hereafter in the campaign of 1814, when Napoleon turned from Champaubert on Montmirail.

The intercepting force must not be inferior to the enemy unless immediately supported.

Since to assail an adversary's communications is to challenge him to immediate battle, the force which performs the movement must be proportioned to the audacity of the step. An inferior force may menace its enemy's rear, as Sir John Moore's army menaced Napoleon's line from Madrid to France; or a corps may inflict for a time great damage on an adversary's army by interrupting convoys and destroying roads and supplies; but unless it have a retreat open, it will probably suffer heavily for its presumption. Thus, when the Allies in 1813 were defeated before Dresden, Napoleon sent Vandamme's corps up the Elbe to intercept the retreat of their columns in rear of the Saxon mountains; but the French force, throwing itself across the path of the retiring army, was enveloped and destroyed. In the same campaign, Wrede's corps, trying to cut Napoleon off from France after the defeat of Leipsic, was swept aside at Hanau without effecting any part of its purpose. An inferior force so engaged must therefore compensate for its weakness by extraordinary advantages of position, or must be certain of immediate and powerful support, such as a close pursuit, by a co-operating force, on the rear of the coming foe, or an advance upon his flank by the main army. In any other case it is imperative that the intercepting force should be strong enough to engage on good terms wherever it may encounter the enemy.

Comparative advantages of partial and complete interception.

The operation of throwing an army across an enemy's lines of retreat as Napoleon did, is, in appearance, much more decisive and effectual than that of operating on a front parallel to those lines, as Radetzky did. But it is so chiefly in appearance. The troops, spread over a great space, cannot be strong enough at any point to resist the attack of the enemy in mass. Their front being parallel to their own line of communication with the base, a lost battle would be as disastrous to them as to the adversary. On the other hand, by retaining a front parallel to the enemy's communications, the assailant covers his own, and therefore preserves a relative advantage in case of battle; while, if the intercepted army seeks to evade an engagement by using a still unclosed line of retreat, it ought to be anticipated on that line and brought to action, for the assail-

ant will almost certainly be nearer to some point of that line than the enemy. For instance, had Napoleon, in 1805, halted on the Danube instead of crossing it, his whole army would have been assembled in the space between the river and the Ulm-Nuremberg road. It would thus have been ready to confront Mack there; it would have closed the main line of Austrian communication, that of Ratisbon; and had the enemy sought to escape from Ulm by Munich, the French from Ingolstadt and Neuburg might have arrived there in half the time.

Ulm to Munich, 80. Ingolstadt to Munich, 45.

Best course for the assailant in general.

In general, then, the better course would be for the assailant, on attaining the point of the communications aimed at, to move rapidly along them till close to the opposing army, and then to manœuvre so as to force that army to form front to a flank. It will thus be compelled to engage at the greatest relative disadvantage if it determines to fight, and if it escapes by a line still open, the territory it had occupied will be gained without a blow.

Best course for the general of the intercepted army.

The commander of an army that feels the grasp of a formidable enemy on its communications is not in a position which admits of pause or deliberation. His first step must be to concentrate his forces; till that is effected he can only attempt to retreat under penalty of sacrificing all the troops that have not joined him, and the more extended his front the greater will be his danger. But if the concentration be accomplished while the enemy is yet at a distance, his hope of safety must lie in the promptitude of his movements. Whatever course he resolves on, whether to break through the cordon or to evade it, it is indispensable that he should operate with his army entire. To divide his forces for any purpose will be to play the adversary's game. And the best course will generally be to strike boldly at the communications of the enemy, for a success there may retrieve the campaign. Had Melas moved promptly to the Ticino he might have been in Milan on the 14th June, while Napoleon was seeking him on the Bormida. And Mack might have recovered his base without loss of credit had he struck with his whole army towards Nuremberg. Still, meet it as he will, a sustained movement against his communications must cause a general to lose ground in the theatre, and to abandon his enterprises, though he save his army.

Concentration indispensable.

PART IV.

OPERATIONS ILLUSTRATING THE RELATIONS BETWEEN THE FRONTS OF OPPOSING ARMIES, WITHOUT SPECIAL REFERENCE TO THE COMMUNICATIONS WITH THE BASES.

CHAPTER I.

THE MANNER IN WHICH PART OF AN ARMY MAY HOLD IN CHECK OR RETARD A SUPERIOR FORCE OF THE ENEMY DURING AN OPERATION: THIS MATTER BEING NECESSARY TO THE DISCUSSION OF THE GENERAL SUBJECT STATED ABOVE.

IT has been already said that in very few countries can a large body of troops move in order of battle, even for a short march. It must of necessity, even when moving in the expectation of an immediate engagement, form lengthened columns on the roads. When in this formation, only the heads of the columns can be deployed for immediate action; and to bring the army from the order of march to the order of battle is a work of time. Therefore it may, in most countries, be checked for a short time by a force, deployed in order of battle, only a little superior to the heads of the advancing columns. And the uses to be made of this circumstance are manifold; it is not too much to say that, rightly employed, it is the most effective weapon in the military armoury; but only one or

The march of a column may be retarded by a very inferior force.

two modes of applying it need be adverted to, for the better understanding of this part of the subject.

The retarding force must engage only partially,

If a body of troops were to remain drawn up to oppose the advance of a superior force, on a plain, where the whole formation was visible, the attempt would be futile and disastrous. The enemy would at once attack with superior force, and compel a costly retreat under penalty of rout or destruction. But skilfully disposed, in a good position, across the path of an adversary advancing in an ordinarily broken and difficult country, the risk is greatly reduced. If the armies have been manœuvring near each other, with numbers and positions constantly changing, and plans and combinations only to be guessed at, the leader who comes on such an obstacle in his path cannot, at first, know the amount of force which bars his way sufficiently well to begin an immediate battle. He will generally pause, reconnoitre, and feel his way; and will defer a general attack till he shall be ready to deploy a force sufficient to render him confident of success.

In the meanwhile the commander of the smaller force must watch carefully the dispositions of his adversary, and combine, in an unusual degree, resolution with prudence. For if he were to engage the whole of his troops throughout the extent of their front, it would be out of his power to withdraw when the adversary had deployed a superior force, and he would be outflanked and heavily defeated. On the other hand, if he were to give way before the enemy had made a considerable deployment, the advance which it was his business to check would not be retarded. He must occupy his ground to the last moment possible without committing himself to a general action, and must then effect an orderly retreat. At the first opportunity offered by the ground he must repeat the manœuvre. Meanwhile the adversary will have again formed order of march, and, on approaching him, must once more form for battle,—with more or less promptitude in proportion to the confidence he may feel that the obstructing force is still inferior to him. In this way the day's march, which, if unopposed, might have stretched to twenty miles, may be reduced to six or three; and time may thus be gained for employing to decisive advantage the rest of that army which uses the retarding force.

withdrawing when outnumbered.

"One secret of retiring," says Marmont, "is to move off the army

betimes, leaving a strong rear-guard, which delays to march as long as possible without compromising itself, and to take a defensible position at such a distance that the enemy cannot arrive till three hours before sunset. Whatever his ardour for the combat, he will then not have time to make the necessary dispositions."

EXAMPLE OF A FORCE RETARDING THE ADVANCE OF A SUPERIOR ENEMY. See Map No. 10.

In 1815 Zieten's corps occupied the line of the Sambre, covering the road from Charleroi to Brussels; and when Napoleon advanced, it was the business of Zieten to oppose the progress of the French until Blucher and Wellington could concentrate their forces behind him.

The French columns advanced to the Sambre at three points, namely—Marchienne, Charleroi, and Chatelet.

Marchienne to Chatelet, 6.

Zieten's 1st brigade was in and around Fontaine l'Eveque;
The 2d in Marchienne, Dampremy, La Roux, Charleroi, Chatelit, and Gilly;
3d in Fleurus, Farciennes, Tamines;
4th in Moustier-sur-Sambre, nearly to Namur;
Reserve Cavalry about Gosselies.

When the French columns approached the Sambre, and the direction of the movement was apparent, Zeiten ordered

The 1st brigade to Gosselies;
The 2d to defend the passages threatened, until the 1st should have traversed its rear, and then to retire towards Gilly;
3d and 4th to concentrate as rapidly as possible on Fleurus.

Charleroi to Fleurus, 9.

Thus the weight of the advance was opposed by the 2d brigade, about 8000 strong.

The line of the Prussian outposts had extended on a front from Sossoie to Thuin on the Sambre. These were driven in about four in the morning. The advanced-guard of the left French column attacked the Prussian outpost in Thuin, and drove it on Marchienne, which was defended by a battalion and two guns. The bridge was barricaded and held against several attacks, after which the defenders, outnumbered, retired through Dampremy upon Gilly. In Dampremy was part of a battalion with four guns, which also retired upon Gilly, while the battalion from Marchienne marched upon Fleurus.

The advance checked.

A corps of light cavalry, 2500 strong, supported by the Imperial Guard, formed the advanced-guard of the French centre column, and drove in the Prussian outposts in front of Charleroi, capturing a company in a village on the Sambre. The bridge and dyke of Charleroi were defended against a first attack, but carried by a second, when the defenders (one battalion) retired towards Gilly. By eleven o'clock the French held Charleroi, and Reille's corps was passing the bridge of Marchienne.

The passage of the French at these points rendered the situation of the 1st Prussian brigade, retiring from Fontaine l'Eveque, extremely critical. To facilitate its retreat, Zieten detached a regiment of infantry and a regiment of cavalry from the 3d brigade, in reserve at Fleurus, to Gosselies. A brigade of the French cavalry corps approached Jumet while the 1st brigade was still beyond the Piéton, and threatened to cut it off, but was attacked and defeated by the Prussian cavalry. The 1st brigade passed the Piéton, and filed through Gosselies, covered by the detachment from the 3d.

French advance checked at Gosselies.

The repulsed French brigade was supported by a light cavalry division of the Guard and a regiment of infantry, and again advanced on Gosselies, in conjunction with one division of Reille's corps from Marchienne; and followed the 1st Prussian brigade to Heppignies, where it formed order of battle, and drove the head of the French attacking column back towards Gosselies. The Prussians then retired on Fleurus.

About two o'clock the 2d brigade concentrated near Gilly, the right on Soleilmont, the left on the Sambre at Chatelet, where a detachment from the 3d corps defended the bridge. The nature of the country concealed the extent of the force; the French generals paused to reconnoitre before attacking; the Emperor himself made a reconnaissance, and ordered an attack, the dispositions for which were completed about six o'clock. The commander of the 2d brigade, threatened by overwhelming numbers, withdrew it to another position in rear, but not without considerable loss from the charges of the pursuing cavalry, which, however, was presently checked by Prussian horse from the reserve at Fleurus. The 2d brigade then took up a position in front of Lambusart, from whence, after again checking the French, it retired, protected by cavalry, to Fleurus. The 1st brigade reached St Amand about eleven at night; and the whole corps (four brigades) was at that hour concentrated between St Amand and Ligny.

French advance checked at Gilly.

French advance checked at Lambusart.

In this way two columns—one, the left, of 45,000, the other, the centre, of 64,000 men—were retarded by two brigades, each about 8000 strong, so that between eleven o'clock in the morning and nightfall they only advanced four or five miles. And this was in a country more than commonly free from obstacles, and affording no marked advantages for defence.

Subject of the chapter continued.

When an army makes a compulsory retreat after a defeat, it is not in a condition at once to renew the contest. "A beaten army," says the Archduke Charles, "is no longer in the hands of its general." It no longer responds to his appeal. The troops that have been driven from the field will be slow to form front for battle—confusion, too, will be added to despondency, for regiments will be broken and mixed, artillery will be separated from its ammunition, supply-trains will be thrown into disorder by the sudden reflux, and the whole machine will be for the time disjointed. It is partly to provide for this that generals usually keep part of their reserves out of action, in order to cover the retreat. The enemy must form columns to pursue—the heads of these may be checked, and the pursuit retarded; and time will thus be given to restore order, and to take advantage of favourable ground to make another stand.

Operation of a rear-guard.

Only part of an army need pursue.

On the other hand, it is not necessary for the victorious leader to launch his whole army in pursuit. If the enemy's entire concentrated force has been engaged, he will naturally follow it with his whole army. But if he has fought with only a portion of the enemy, and has other and better uses than pursuit of it for part of his own forces, he may detach a corps to press the rear of the beaten troops. The retreating general will be unable for some time to ascertain what amount of force is pursuing—for all he knows, the whole of the army that has just beaten him may be on his track; he is compelled, perhaps, to pass by positions which he might, indeed, with the troops in hand, hold against the real pursuing force, but which he could not venture to occupy with the chance of being again attacked by the whole weight of the enemy. And if at last he does rally his corps, and turn on the pursuer, the latter must at once take up the part of a retiring force, whose business it is to retard the enemy, and will fall back upon the main

army, which, in the mean time, should have found time to effect its purpose.

Comparative strength of pursuing force.

As a rear-guard is seldom more than a fifth or sixth of the total force, especially if it be formed entirely of the troops of the reserve, it follows that the pursuing force, in order to press confidently on the rear-guard, attacking boldly, and augmenting the disorder, need not be more than a third of the beaten army. Thus two-thirds of the victorious force (supposing it to have been equal to its adversary at first) will be disposable elsewhere.

Course of the defeated bodies.

The chance of the defeated general resuming the offensive will then depend partly on the nature of the defeat he sustained in the field, partly on the conduct of his rear-guard. But it may depend still more on what the main body of the enemy, operating elsewhere, may be able in the mean time to effect. If the defeated general fought the action with only part of an army, and is driven by his retreat more and more apart from the rest, his first endeavour will be to effect a reunion; and if he finds that the other portion of the army has also been defeated, he will feel that the first object of the leaders of both parts must be to recombine the broken host, by anticipating the victor in arriving at some possible point of junction.

Grounds established for pursuing the subject.

Let us assume, then, that part of an army may *occupy* a superior force of the enemy, while the remainder strikes a blow elsewhere; that a beaten army may be pursued for a time by an inferior force; and that the course taken by parts of an army which have been separately defeated will be to retreat in order to recombine.

CHAPTER II.

THE EFFECT OF INTERPOSING AN ARMY BETWEEN THE PARTS OF AN ENEMY'S EXTENDED FRONT.

It has been shown in former examples that operations against the communications of an enemy with his base, however decisive, are only practicable, except with corresponding risk, under certain geographical conditions. If these do not exist, such enterprises can only be undertaken under penalty of a reciprocal exposure of the communications of the assailant. Regard for these will generally induce commanders, unless unusually confident in themselves and their army, to seek safer methods of obtaining an advantage; and opportunities must be sought in the relations which the fronts of the hostile armies bear to each other at different junctures of the campaign.

There are various reasons, as has been already explained, why an army should, and generally does, operate on a front more extended than its line of battle. Thus in the Jena campaign, Napoleon's front from Saalfeld to Plauen extended 50 miles; the Prussians from Jena to Gotha, and thence towards Hildburghausen, were still more dispersed; and when the armies were assembled in presence of each other, the parts at Naumburg and Jena were separated by an interval of 20 miles. When, in 1805, Napoleon marched round Ulm, there were wide gaps between his columns; and, in fact, the case where great armies move for any distance on a front as contracted as their line of battle is comparatively rare. Under such circumstances opportunities must occur, amid the shiftings of the hostile bodies, for pushing into the intervals of an enemy's front and separating its parts; the front of a great army in motion being marked by a line passing through the heads of advancing columns.

CAMPAIGN OF 1796 IN ITALY.

See Map No. 5.

At the outset, the Western and Southern faces of the mountains of North Italy marked the fronts of the opposing armies, the French on the one side, the Sardinians and Austrians in alliance on the other.

On the Western face, armies of about 20,000 men (the French being under Kellermann) on each side occupied and neutralised each other during the active operations which took place on the Southern side of the theatre. An English fleet on the coast restricted the French to the land.

Positions of the French.

The part of the French army which Napoleon commanded, known as the Army of Italy, was extended along the mountains parallel to the coast between Nice and Genoa. Four gaps pierce this chain, leading from the strip of coast-line into Piedmont. On the left is the pass of Tenda—next that of Ormea—then the defile opposite Savona—and lastly the Bochetta pass, in which lies the road from Genoa to Alessandria.

Tenda to Genoa, 80.

On Napoleon's left, two of his divisions, together 7000 strong, held the pass of Tenda.

Next Serrurier's division (7000) was in and beyond Ormea, possessing therefore the issue of the mountain-chain.

The division of Augereau (8000) was at Mont San Giacomo, from whence there is a hill-path along the northern slope communicating with the road of Cadibona.

The division of Massena (8000) was at Cadibona.

The division of La Harpe (8000) at Savona, one of its brigades, Cervoni's, being at Voltri.

French communications.

The communications of the French with France were by the road through Savona to Nice.

Positions of the Austro-Sardinians.

The army immediately opposed to Napoleon was under the Austrian general Beaulieu. It consisted of 20,000 Sardinian troops and 30,000 Austrians.

Coni to Millesimo, 35.

The Sardinians under Colli had their headquarters at Ceva, and extended from the valley of Coni on the right to Millesimo on the left.

Millesimo to Sassello, 20.

The Right Wing of the Austrians, or Centre of the Allied army, under Argenteau, was at Sassello.

Sassello to Voltaggio, 25.

The Left Wing at Ovada and Voltaggio was under the immediate command of the general-in-chief, Beaulieu.

The base of the Sardinians was Turin, with which they communicated by Alba, Fossano, and Cherasco. Bases and communications of the Allies.

The ultimate base of the Austrians in Italy was the Mincio, with which they communicated by the lines—

Acquia-Casale-Milan;
Acquia-Alessandria-Pavia;
Novi-Tortona-Piacenza;

and, intermediately, their object was to cover Lombardy.

The issues of the mountain barrier into Piedmont at Tenda and Ormea were in possession of the French. At the Savona pass works were constructed by the French, but there were no obstacles on the Austrian side. The Austrians held the Bochetta pass; and the fortifications of Coni, Mondovi, and Ceva, held by the Sardinians, closed the principal valleys.

The French army guarding the passes leading on its communications was necessarily greatly extended; but was nevertheless collected on the different points already mentioned. The Austro-Sardinians, occupying an equally extended front, were much more disseminated along that front; for numerous ridges shoot out from the main chain, which frequently subdivide, and the valleys lie between them. As these ridges are mostly much easier of passage than the main chain, the French, descending from any of their passes, could from one valley pass to another. Therefore the Austrians, pursuing the system common at that time, sought to guard all the avenues by occupying all; and thus their forces were greatly subdivided and separated from each other by the intervening ridges, while the French had the Nice-Genoa road (the Corniche) by which to communicate. The numbers of the Austro-Sardinians in the field were diminished by the garrisons of the fortresses in Piedmont, and were probably about equal to those of the French.

Napoleon's plan was to continue to hold the passes of Tenda and Ormea, but to draw together the divisions of Augereau, Massena, and La Harpe, for an attack upon the Austrian centre, and to push in between Beaulieu and Colli. This design was greatly favoured by an offensive movement which Beaulieu commenced, very opportunely for Napoleon. French plan.

The Austrian general, on finding that La Harpe's Right was extended to Voltri, conceived that the attack was about to be made on his Left against the line Genoa-Novi. Therefore he resolved to meet this by moving his Austrian plan.

Voltaggio to Voltri, 20.

Left Wing on Voltri to attack in front; while his Centre, under Argenteau, from Sassello, was to advance upon Savona, and enclose all the French eastward of that point, cutting them from Nice, and from their Left Wing at Ormea and Tenda.

Sassello to Monte Legino, 13.

The pass opposite Savona is double. One path comes from Sassello, the other from Cairo; and the Monte Legino stands between them. On the topmost ridge of that hill, works had been constructed to close the road from Sassello.

Austrians extend.

10*th April.*—The Austrians moved thus: Argenteau, with 10,000 men from Sassello, by Montenotte towards Savona; Beaulieu, with 11 battalions, in two columns, one by the Bochetta pass, one over the mountains, to Voltri, where the head of the first column attacked the brigade of Cervoni.

Cervoni held his ground for the day, and at nightfall retired to a position in rear.

11*th April.*—Argenteau, resuming his advance, was stopped by the works in the pass occupied by 1200 men. He attacked them unsuccessfully all day, and at night bivouacked in front of them, detaching a battalion to cover his rear in the valley he had come by.

Beaulieu, still advancing, again attacked Cervoni, but without driving him from his position.

Voltri to Monte Legino, 20.

During the night, Cervoni, retiring from before Beaulieu, joined La Harpe, whose whole division, marching to the Monte Legino, drew up behind the works there, facing Argenteau.

French concentrate.

Massena from Cadibona was directed into the Cairo valley; then he was to cross the ridge into the Sassello valley, and was then (apparently by the same path by which Argenteau had advanced) to attack the Austrian flank and rear.

Augereau from San Giacomo was to move on Cairo, and push back the Sardinians there, so as to prevent them from reinforcing Argenteau: this done, he was to turn towards Massena.

12*th April.*—La Harpe in front, Massena in rear, attacked Argenteau, whose force was entirely broken and dispersed, the remnants rallying at Dego.

La Harpe was directed to move first on Sassello, to drive back any troops there, and then to cross the ridge to a point between Cairo and Dego.

Massena's division, after the action, was pushed into the valley, occupying it from Cairo to the heights looking on Millesimo.

Augereau, from the Cairo valley, crossed the ridge to Millesimo.

Serrurier made false attacks from Garessio to occupy Colli.

Beaulieu advanced again; but encountering no enemy, and hearing the cannonade in the hills, halted for information.

13*th April.*—Augereau's division, and the brigades of Massena on the ridge, enveloped the Sardinians at Millesimo. Austrian centre broken.

Beaulieu learnt what had befallen Argenteau. He turned back his own columns, and ordered such of the Austrian troops as were then north of the Apennines to concentrate on Dego.

14*th April.*—La Harpe joined Massena's right, and together they drove the Austro-Sardinians at Dego (4 battalions) upon Acqui, defeating also, next day, four other battalions, directed by Beaulieu upon Dego. Dego to Acqui, 20.

Augereau mastered the ridge between the valleys of Millesimo and of Ceva.

Serrurier established communications with Augereau.

Beaulieu changed the point of concentration to Acqui.

Colli concentrated the Sardinians in the intrenched camp of Ceva.

15*th to* 22*d April.*—Napoleon, posted on the principal spurs of the Apennines, had now interposed his division between the widely-separated wings of the Allies. He resolved to throw his weight against the Sardinians. French army, interposed between the Allies, throws its weight against their Right.

He posted La Harpe at San Benedetto, where he might watch Beaulieu, and at once prevent an offensive movement against Napoleon's rear, or anticipate the Austrians at some point, such as Alba, should they seek to join the Sardinians. And to cover his communications with Savona, he left a brigade at Cairo.

Augereau then joined Serrurier before Ceva. Millesimo to Ceva, 10.

Massena crossed the ridge into the valley of the Tanaro below Ceva.

Colli retired to a position before Mondovi.

The Sardinian general, after repulsing an attack, retired to Mondovi. Pursued and driven thence, he retreated to Fossano. Sardinians retreat towards Turin.

The French communications with Nice were now established by the line Ceva-Ormea. Ceva to Mondovi, 13.

23*d April.*—Colli made overtures of peace on the part of the Sardinian Government. Napoleon, while treating, continued to advance.

Austrians move to rejoin the Sardinians.

24th April.—Beaulieu, with the design of joining Colli, moved from Acqui by Nizza towards Alba.

25th April.—Colli retreated to Carignano.

Serrurier occupied Fossano.

Massena occupied Cherasco.

Acqui to Alba, 25.

Augereau occupied Alba.

Communications were established with Tenda, and the divisions there were ordered to invest Coni.

French mass still interposes.

26th April.—The French united on Alba, and Napoleon resumed his advance on Turin.

Alba to Turin, 40.

27th and 28th April.—The Sardinians concluded a separate peace, giving up the fortresses of Alessandria, Tortona, and Coni, and the citadel of Ceva, to the French, who obtained the line of the Mont Cenis for their communication with France in subsequent operations; and Napoleon now directed his army against Beaulieu, who fell back across the Po, at Valenza.

Result.

COMMENTS.

Bonaparte's instructions.

The instructions given by the Directory to Bonaparte impressed on him "that the most immediate interest of the French Government should be to direct its principal efforts against the army and territories of the Austrians in Lombardy." They go on to say,—"It is easy to perceive that every military movement against the Piedmontese or their territory is in some way indifferent to the Austrians, who, as was shown in the last campaign, trouble themselves very little about the disasters of their allies, and who in moments of danger, far from seeking effectually to protect them, immediately separate from them, and occupy themselves only with covering the country which belongs to them, and which furnishes them abundantly with the resources of which they stand in need."

Reasons for striking at the Centre.

There was, therefore, political as well as military reason for striking at the centre and separating the Allies. But, having separated them, Bonaparte wisely departed from the instructions of the Directory, in turning with his main force against the Sardinians, for, in compelling them to make peace, he secured the communications with France through Piedmont, which were necessary for a sustained campaign against the Austrians in Lombardy.

In the first movements, the extension of the Austrian line was greatly increased by the march of their left from Voltaggio to Voltri. While Beaulieu and Argenteau were thus separating, the French forces immediately opposed to them were concentrating against the centre.

Massena's circuitous march.

Massena at Cadibona might, on the night of the 11th April, have readily joined La Harpe in directly opposing the Austrians in the Sassello-Savona route. But by defeating them there by a front attack they would be merely driven back on Sassello. It was always a characteristic of Napoleon to direct his troops where their action would be most effective. As Argenteau had already been stopped by the garrison of the works on the Monte Legino, it was certain that when La Harpe's whole division had come to the support of that garrison, the defence of the pass was amply secured. Therefore Massena was directed by the western path, on the Austrian flank and rear.

Austrian offensive movement disconcerted.

Upon the defeat of Argenteau at Montenotte, Beaulieu was compelled to pause. For though he was prepared to attack the French in front of him, yet it was on the assumption that Argenteau would co-operate by an attack on their flank or rear; and this was only possible on condition that the French should be concentrating towards Voltri. Therefore, when Beaulieu found they had retired from that point, he knew that they must be either beyond the reach of Argenteau, by retreating westward beyond Savona, in which case he would presently be apprised of it by the advanced-guard of his colleague issuing from the pass—or that they had concentrated for an attack on Argenteau, in which case he might, if he should advance, find himself single-handed in the presence of a victorious enemy, as would indeed have been the case. Therefore, as soon as he was certified of disaster to his colleague, he hastened to recover his communications with Lombardy, which he might else find to be endangered.

Why the divided army, though superior, could not attack.

Upon the defeat of Colli at Millesimo and his retreat to Ceva, the mass of the French was interposed between the wings of the Allies. Deducting losses on both sides, Napoleon's four divisions (Serrurier being in line on the 14th April) numbered about 30,000—while Beaulieu had only about 20,000 at Acqui, and Colli about 15,000 at Ceva. Therefore, unless they could concert a simultaneous attack, either allied force, if it assumed the offensive, might, and probably would, find itself opposed by superior

numbers. The only course then was a joint retreat with a view to reunion—and this was what La Harpe at San Benedetto was meant to discover and to retard or prevent.

Object of the assailed force.

Speaking of the evacuation of the strong position before Mondovi by Colli, Jomini says,—"His only aim was to gain time for the arrival of the army of Beaulieu; if he were to engage in an unequal conflict he ran the risk of a serious disaster and of being ruined; a methodical retreat, executed in time, seemed to lead most surely to his end." This remark shows very clearly what must be the object of that portion of a divided army on which the enemy throws his weight,—namely, to make a retreat which, while it is so slow as to secure the arrival of the other portion of the army at the point of reunion, is also sufficiently prompt to avoid the risk of a general action with a superior force. Whether Colli, in this case, rightly estimated the strength of the position which he abandoned, is not to the present purpose.

Necessity of pressing a divided enemy.

It is not enough to pierce and divide the enemy's army; the advantage thus gained must be promptly followed up, or a subsequent reunion of the parts may nullify all the previous operations. Thus, while Bonaparte was held in check by the position of Colli before Mondovi, once unsuccessfully assailed, we learn that he called his generals to a council of war. "Convinced that the army would be lost," says Jomini, "if the enemy had time to recover, they decided unanimously for a second attack, notwithstanding the fatigue and discouragement of the troops." That is to say, the first stroke must be followed up by successive blows on one or both sides, which shall, at once, keep the enemy asunder, and destroy his force.

Effect of the parts of a separated army having divergent bases.

There was no doubt ample time after Beaulieu reached Acqui, on the 15th, for him to move behind the Tanaro to the aid of his ally, who was not driven from Mondovi till the 22d. But it is probable that, besides the indisposition to help his ally adverted to in the instructions of the Directory already quoted, he felt hampered by the fact that in thus operating parallel to his communications with his base on the Mincio, he would be dangerously exposing them. This fact—that the Allies when separated had divergent lines of communication and of retreat, and that their movements were influenced by the circumstance—is to be noted.

When Napoleon was advancing on the line Ceva-Fossano, the whole of the Sardinian forces—namely, those opposing Kellermann and those

MAP No 5
ITALIAN CAMPAIGNS
of 1796, 1800, 1849 & 1859.
SCALE OF MILES.
Bellinzona
Varese
Como
Trent
Rovereto
Bari
Ivrea
Novara
Milani
Brescia
Lecco
Verona
Vercelli
Lodi
Crema
Mortara
Pavia
Pizzighitone
Mantua
Legnago
Cremona
Casale
Valenza
Asti
Alessandria
Nizza
Alba
Cherasco
Cuneo
Genoa
Parma
Modena
Bologna
Ferrara
Nice
Gt St Bernard
Alps of Savoy
French Alps
Apennines
R. Po
R. Adige
R. Oglio
R. Adda
R. Tanaro
R. Sesia
R. Ticino
R. Dora Baltea
R. Var
To Austria by Innsbruck
To Austria by Illyria

opposing Napoleon, were interposed between the two French commanders. It was therefore possible to repeat against Napoleon the game of combination which he had just played against Beaulieu. A small containing force might have been left before Kellermann, and the remainder combined against Napoleon. It was to guard against such a contingency that Bonaparte, on the 25th, from Fossano pressed the commander of the right of Kellermann's army to issue from the Alps towards him. But, besides the want of military skill to perceive and execute this, it is also to be observed, first, that, even when thus combined, the Sardinians would have been inferior to Napoleon in numbers—having been only equal to his single army at the outset; and, secondly, that the distance from Mont Cenis to Turin is so short that Kellermann, unless strongly opposed, might reach it in a single march and enclose their armies while he seized their capital. They were influenced by the same reasons which caused Mr Lincoln to spoil M'Clellan's combination in 1862. The Federal general wanted to combine M'Dowell's forces from Fredericksburg with his own, at Hanover Court-House, interposing between Johnstone at Richmond and Jackson in the Shenandoah Valley, and concentrating for an attack on the former. But the Northern President, fearing to leave the capital uncovered, retained M'Dowell, and M'Clellan, left unsupported, was defeated.

New combination open to the Sardinians.

Why neglected.

Lastly, it is to be noted, that when an army is extended over a space beyond its strength, the most fatal way of attacking it is on the centre. Had Napoleon executed the design which Beaulieu attributed to him of advancing through the Bochetta pass to turn the Austrian left, however successful might have been his first attacks, they could only have insured that which it was his aim to prevent—namely, the concentration of the enemy.

Greater advantage gained by breaking the centre than by turning the flank.

CAMPAIGN OF ECKMUHL (1809).

The maintenance of the war with France by the English in Portugal seemed to afford Austria an opportunity of effacing the results of Ulm and Austerlitz, and of breaking the power of Napoleon. So menacing was the aspect of the great German power, that the French Emperor, abandoning the pursuit of Sir John Moore's army to Soult, had returned to France to prepare for the anticipated campaign.

See Maps 6 and 7.

Armies assemble in the theatre.

Early in the year the Austrian armies were behind their frontier lines of the Bohemian mountains and the river Inn; and most of the French forces were on their own side of the Rhine. But when war was imminent, the Austrians, leaving 50,000 men under Bellegarde in Bohemia, assembled most of the troops which they had ready for the field, south of the Danube, on the frontier of Bavaria. On the other hand, the Confederation of the Rhine, by which compact the German territories along that river were open to Napoleon, gave him free access to the Danube. When the war began, the troops already assembled within the immediate sphere of operations were as follows:—

The Inn to the Isar, 40.

The Austrian corps on the Inn were those of
Hohenzollern,
Rosenberg,
Archduke Louis,
Hiller,
Lichtenstein,
Kienmayer,——Total, 140,000.

Bellegarde, who was to operate north of the Danube, debouching from Pilsen and Saatz towards Amberg, 50,000. Behind these, great bodies of militia covered Vienna.

Napoleon's corps were thus distributed:—

Bavarians, . . .	on the Isar, ...	30,000
Davout, ...	Ratisbon, ...	50,000
Oudinot, ...	Augsburg, ...	30,000
Massena, ...	Ulm, ...	30,000
Wurtembergers, . .	on march for Ingolstadt, . .	12,000
Reserve cavalry, . .	Ingolstadt, ...	15,000
	Total, . . .	167,000

Behind the front of the French, the roads of Germany were covered with columns marching from the Rhine, including the Imperial Guard, and with the reserves of the German allies of France.

French bases and communications.

Napoleon, based on the Rhine and Mayne, had for communications any or all of the roads leading from the Danube, between Ulm and Ratisbon, to Wurzburg, or to the fortresses on the Rhine. Those mainly relied on, as most secure, were probably the roads from Strasburg, Mannheim, and Mayence, to Ulm.

Austrian base and communications.

The Archduke Charles had for immediate lines of supply those of Steyer-Braunau and Linz-Passau. If he should operate north of the

river, he must of course rely on the northern portion of his base, Budweis-Theresienstedt.

Napoleon's object was Vienna; but as the Austrians took the initiative, his plan must depend on the opportunities which their movements might offer.

The Archduke's design was to pass the Inn, push the Bavarians from the Isar, and, crossing the Danube between Donauwerth and Ratisbon, cut Davout from the French army, and form a junction with Bellegarde on the northern bank. Austrian plan.

10*th to* 16*th April.*—The Austrians crossed the Inn thus:—

Hiller, Archduke Louis, Kienmayer, } at Braunau;
Hohenzollern, below Braunau;
Rosenberg, Lichtenstein, } at Scharding;

and reaching the Isar on the 15th, forced the passage thus, on the 16th:—

Hiller at Moosburg.
Archduke Louis, Hohenzollern, } at Landshut.
Rosenberg at Dingolfing.
Reserves in rear of the centre.

Moosburg to Dingolfing, 28.

On the right a brigade (5000) moved on Straubing.

On the left 10,000 from Wasserburg towards Munich.

The Bavarians, at Landshut, attacked in front and turned on both flanks, fell back to the Danube behind the Abens, between Neustadt and Kelheim, where they were reinforced by 12,000 Wurtembergers.

17*th April.*—The Austrians moved thus:—

Hiller, . .	from Moosburg to Mainburg.	Austrians approach the Danube.
Louis, . . .	Landshut towards Neustadt.	
Hohenzollern, Lichtenstein, Kienmayer,	Landshut towards Kelheim.	Moosburg to Mainburg, 14.
Rosenberg, . .	Dingolfing by Eckmuhl towards Ratisbon.	

Bellegarde was to draw down on Davout's rear.

French movements:—

Massena moved from Ulm to Augsburg, and took command of the Right Wing.

Napoleon orders concentration.

Napoleon arrived at Donauwerth from Paris, and ordered the following movements of concentration on the centre:—

Augsburg to Pfaffenhofen, 34.

Ratisbon to Abensberg, 22.

Rohr to Ratisbon, 22.

Right Wing—Augsburg to Pfaffenhofen.
Left Wing—Ratisbon to Abensberg.

18*th.*—Austrian front—

Left,	Hiller, Louis, Kienmayer,	Mainburg. Abensberg.
Centre,	Hohenzollern, Lichtenstein,	Rohr.
Right,	Rosenberg—Langquaid.	

French movements:—

Massena from Augsburg towards Pfaffenhofen.
Davout to the right bank at Ratisbon.

19*th.*—Austrian movements:—

Austrians separate.

Hiller to Siegenburg.
Centre, Right Wing, towards Ratisbon.

French movements:—

Davout placed a regiment in Ratisbon, and left the highroad along the Danube free for his baggage and trains. His infantry divisions marched in two columns, each of two divisions, one by Teugen, the other by Saalhaupt, by country roads, from whence they were to gain by cross-roads the highroad to Abensberg by Feking. His cavalry protected the movement by advancing on the road Ratisbon-Eckmuhl, and then following, through Dingling, the general direction on Abensberg.

French Left Wing joins the Centre.

At the same time the Archduke's columns were moving from Rohr by Hausen and Teugen, and from Langquaid by Schneidart and Saalhaupt, towards Ratisbon.

The inner flanks of the hostile columns necessarily encountered; and they sidled round each other, fighting principally with the rearmost divisions, while the leading troops continued their advance. Davout's two leading divisions made good their communications with Abensberg by Feking, and the other two held Teugen. The Austrian march on Ratisbon was stopped, and the Archduke remained facing the French front.

Austrian Right Wing halts.

20*th April.*—French movements :—

Combination against Austrian Left Wing.

Davout with half his corps to hold Teugen.
The other half under Lannes on Rohr.
Bavarians on Arnhofen.
Wurtembergers between Lannes and the Bavarians.
Massena from Pfaffenhofen on Landshut by Freising and Moosburg.

Abensberg to Rohr, 7.

Pfaffenhofen to Landshut, 36.

The result of the attacks against the Austrian Left Wing which followed this last combination was, that the French reached Rottenburg—the Austrians were driven on Pfaffenhausen—and continued their retreat in the night upon Landshut.

21*st April.*—

French pursue the beaten Wing.

Part of the Bavarians by Pfaffenhausen,
Lannes by Rottenburg,
Massena by Moosburg,
} on Landshut,

where they drove the Austrian Left Wing across the Isar.

The Austrian Right Wing took post across the Eckmuhl road, backed on Ratisbon, facing Landshut.

French movements :—

French retarding force interposes.

Davout from Teugen to Paring and Schierling.
Part of the Bavarians and cavalry from Rottenburg to join Davout.
Ratisbon surrendered to Bellegarde.

22*d April.*—Kollowrath's division of the Bohemian army joined the Archduke, who, leaving his Left at Eckmuhl, attempted to throw his Right to Abach, so as to issue from thence on the French rear.

Eckmuhl to Abach, 9.

On the French side, Bessières with two divisions of infantry to pursue the beaten Austrian Left Wing from Landshut by Braunau. Two divisions moved between the Isar and Danube as a Reserve.

Massena from Landshut, Lannes, and the cavalry joined the French forces towards Eckmuhl, and the left of the Archduke's immediate forces was attacked and defeated in the battle of Eckmuhl.

Combination against the Austrian Right Wing, which, defeated, retreats apart.

23*d April.*—The Austrian Right Wing, covered by Kollowrath, crossed the Danube at Ratisbon.

Napoleon took Ratisbon by assault, after bombarding it.

Ratisbon to Straubing, 24.

Massena to Straubing.

Movements in pursuit.

24th to 27th April.—

Davout to follow the Archduke Charles towards Bohemia.
Bavarians to occupy Munich.
Lannes to follow Bessières by Landshut.

Austrian movements:—

Ratisbon to Cham, 33.

Archduke Charles and Bellegarde to Cham.
Archduke Louis and Hiller from Neumarkt towards the Inn.

28th to 30th April.—

Archduke Charles from Cham to Pilsen.

Davout having seen the Archduke's retreat to Bohemia begun, returns to Ratisbon to follow Massena down the right bank.

French pursuing columns from Landshut arrive on the Inn and its tributary at Salzburg, Burghausen, Braunau.

Massena to Passau.

Passau to Vienna, 140.

There were but two bridges between Passau and Vienna—namely, at Mauthausen (just below Linz), and at Krems, by which the Archduke Charles could cross to the right bank, join the other corps, and cover the capital.

1st to 3d May.—The French columns from the Inn to the Traun.

Massena at Ebersburg attacks the Austrian rear-guard, and pushes it past Mauthausen, where there was a bridge over the Danube, thus rendering it impossible for the Austrians to communicate from one bank to the other above Krems.

Archduke Charles at Budweis.

3d to 8th May.—The French columns to St Polten.

Part of the Austrians were seen crossing to the left bank at Krems, breaking the bridge behind them, part retreating on Vienna.

Detachments had been left by Napoleon to guard the passages at Passau and Linz. The Archduke Charles had marched from Budweis southward to Freystadt to cross at Linz. Finding the bridge destroyed, and the right bank in possession of the French, he had marched for Krems, but, owing to the circuit he had made, he was anticipated there also.

Result.

11th May.—Napoleon pushed the Austrian garrison out of Vienna, and occupied the capital.

COMMENTS.

Both armies at the outset were operating on extended fronts, their right wings (Bellegarde and Massena) being indeed beyond the sphere of immediate action. Setting these aside, the Austrian front on the 18th from Mainburg to Eckmuhl, and the French from Neustadt to Ratisbon, each covered about the same distance.

When the Archduke on the 19th advanced on Ratisbon to attack Davout, he was obliged to leave a strong force at Abensberg, for he knew that a great part of Napoleon's army was collected there; and had he withdrawn his *whole* force towards Ratisbon, the enemy from Abensberg would have cut him from the line Landshut-Braunau by the single march on Rottenburg. Hence he could only perform the movement by dividing his army.

But while he was making a movement of separation, Napoleon was making one of concentration. On the night of the 18th, Davout by his own right was connected with the Centre.

Next day the successful march on Rohr interposed the main French army between the parts of the Austrian front. While Napoleon was defeating the Left Wing, Davout was left in front of a very superior enemy; and it would seem at first as if an attack upon him would have balanced the fortunes of the day. But Davout, if compelled to retreat, would have approached Napoleon, whereas the Austrian Left Wing, when defeated, was receding from the Archduke Charles. The result of the Archduke pressing back the force in front of him would have been that the main French army, supporting Davout, would have fought on the 20th or 21st the battle of the 22d, without the trouble of going to seek the enemy.

Having, then, first strengthened his Right for a blow against the Austrian Left Wing, Napoleon now diminished the Right to the amount of force necessary to pursue the beaten corps, and concentrated on his Left for a second blow. This successful, the consequent retreat widened the gap in the Austrian front.

On the 20th, Massena being beyond the sphere of action, the sum total of the armies actually in presence of each other was greatly in

favour of the Austrians by about 140,000 to 110,000. Yet Napoleon was superior to the force *immediately* opposed to him by about 80,000 to 70,000. And without Massena, he could still, after detaching 20,000 in pursuit on Landshut, have made the force on Davout's side next day superior to the Archduke's. Thus we get something like an approximate idea of the actual equivalent in force of the advantage enjoyed by the army whose action is concentric over that which is divided.

Approximate value of the advantage of concentric over divided action.

All these advantages were on the 18th within reach of the Archduke. If, instead of marching from Rohr on Ratisbon, he had moved on Kelheim, for a grand attack along a front extending from thence to Abensberg, he would have brought a greatly preponderating force against the French; and if, as was to be expected, they were driven over the river, he would have turned with his mass on Davout approaching from Ratisbon, and pushed him back on the lower Danube.

These operations of 1796 and 1809 also prove how powerful an influence is exercised upon commanders of parts of armies by uncertainty as to what is passing elsewhere. So long as there is constant communication between the supreme directing authority and his dispersed subordinate leaders, so long may a coherent impulse be given to *all* the portions of an army. But when the intervention of a hostile force destroys this communication, the action of every part is checked. Combined action is the aim of a commander-in-chief, and combination is impossible when concert is destroyed. Nor is the apprehension which paralyses a commander who is thus separated from his colleague the result merely of uncertainty. For had Beaulieu from Voltri, or the Archduke from Teugen, advanced boldly on the enemy, each would have encountered a victorious and superior army. It would seem, therefore, that, under such circumstances, the only prudent course is to effect a reunion with the utmost promptitude, and that the advantages of the concentric position of the interposing army are substantial, and are only augmented, not altogether caused, by the moral effect of the situation.

Advantage of the concentric against the divided army not due to the moral effect only.

There is one especial point of difference between Napoleon's operation of 1809 and that of 1796. In the first case the containing force (Davout's) *was left in front of the Austrian Wing.* In the second case the containing force (Cervoni's) *was altogether withdrawn,* and joined to the divisions which attacked on the side of Montenotte. It may be asked,

why was not Davout withdrawn like Cervoni? or why was not Cervoni kept in front of the enemy like Davout? Very useful questions to consider.

The answer is, that *the sole use of the containing force is to prevent a reunion of the enemy's parts.* If it is not necessary to this purpose, it will be better employed at the point of attack. Had the Archduke Charles suddenly resolved, on the evening after the action of Teugen, to retrace his steps and rejoin the Left Wing, he might, if unopposed, have effected the concentration, and would have had, on the field of Abensberg, a great preponderance of numbers over the united forces of Napoleon and Davout. It was to prevent this that Davout was left in front of him. But had Beaulieu suddenly resolved, on the night of the 11th or morning of the 12th, to rejoin Argenteau, he could only have done so by retiring again through the passes and making a circuit round the other side of the mountains which separated them. But, long before he could make this circuit, the action at Monte Legino must be decided; and if he did make the attempt, Cervoni was powerless to prevent it, for he could not interpose—he could only follow Beaulieu. Therefore Napoleon rightly drew Cervoni towards that point where the action of his force would be most decisively important. We may therefore assume, that *when distance alone will prevent the separated wing of the enemy from joining the other, before that other may be attacked and defeated, the containing force should be withdrawn to the point of attack, unless it is required to cover the communications.*

Different ways of employing the containing force.

To sum up the effects of a successful operation of this kind, it appears—

1st, That either part of the separated army which stands to fight may find itself exposed to the blows of the full force of the antagonist, *minus* a detachment left to contain the other part; as is seen by the examples of Millesimo, Ceva, and Eckmuhl.

General deductions.

2d, That by alternating such blows, the assailant may continue both to weaken his antagonist and to interpose between the parts.

3d, That as the commander of a separated part of an army will be playing the enemy's game if he stands to fight, his best course will be retreat for renunion; and that this will be best effected by taking advantage of every position to retard the enemy on both lines.

4th, That a commander who perceives an opportunity for separating

the enemy, and overwhelming a portion of his force, need not generally be solicitous to cover his own communications during the operation, since the enemy will be in no condition to assail them.

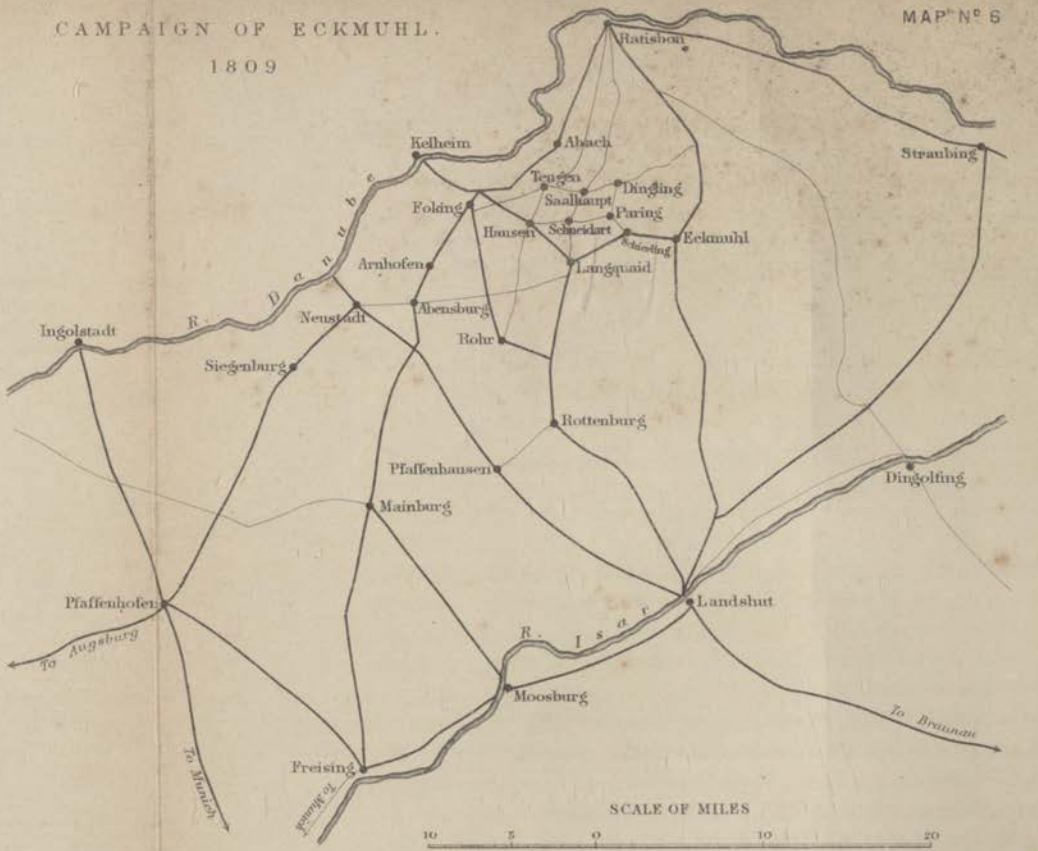
Necessary proportion of the hostile forces.

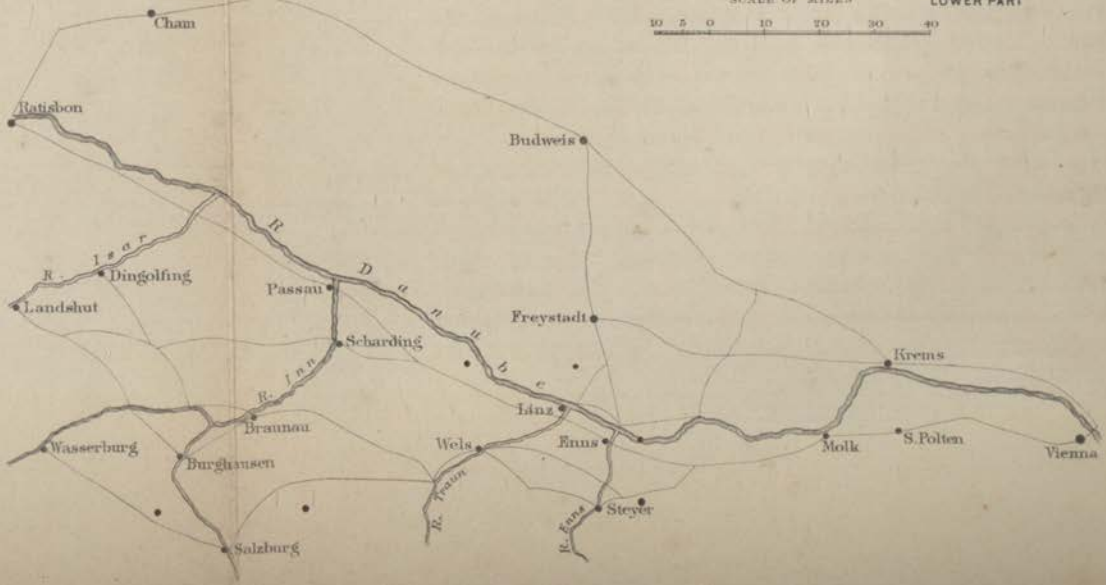
Lastly, It is necessary to remark that the force which aims at separating the parts of an enemy should be so superior to either part singly, as to *preserve a superiority after detaching a force in pursuit of the portion first defeated;* and that if the attacking force does not fulfil this condition, it will have no right to expect success.

CAMPAIGN OF ECKMUHL.

1809

MAP N° 6





CHAPTER III.

THE CASE OF INDEPENDENT AGAINST COMBINED LINES OF OPERATION.—CAMPAIGN OF 1796 IN GERMANY.

HAVING investigated the consequences which follow when parts of an army are separated and driven asunder, we come to the apparently different case of two armies allied, or of the same nation, which, when about to act against the common enemy, voluntarily separate, and operate against him by independent paths, and without concert.

The campaign of 1796 in Germany, besides illustrating this matter, has other advantages; for it took place in the same theatre as those of 1800, 1805, and 1809, which have already been discussed; and it is very useful to read in succession several campaigns which have been enacted in the same region, since we thus become aware both of the fixed value of certain points, and of the various methods by which different generals with various means and under diverse circumstances will operate for the same end. Everywhere glimpses are opened of new relations between different features of the ground, till at last we may be said thoroughly to *know* the theatre of war; that is, to understand all its conditions under every aspect, and to be able to deal with any problem it can offer.

See Map No. 7.

The Austrians and French confronted each other at the outset on the Rhine, from Basle to Dusseldorf.

Hostile fronts.

That portion of the Rhine formed the base of the French when they entered Germany.

French base.

The base of the Austrians, as in other campaigns in this theatre, was the Enns river as far as the Danube—beyond the Danube, the mountains and the Moldau.

Austrian base.

Roads from one base to the other.

Two roads unite the extremities of the hostile bases; namely—

1. Old Brisach-Memmingen-Landsberg-Munich-Braunau-Steyer.
2. Mayence-Egra-Theresienstedt.

In the centre there is a third great road, by—

Carlsruhe-Mannheim-Heilbronn-Nuremberg-Amberg-Klattau, to Budweis.

And several roads lead from the Rhine upon Ulm, thence by Donauwerth, Ingolstadt, to Ratisbon; from whence there are communications with both parts of the Austrian base.

Passages over the Rhine.

The plain of the Rhine valley, straitened by the hills of the Black Forest, begins to widen a little below Basle till it reaches a breadth on that bank of ten to fifteen miles. The best passages over the river are at Huningen, Brisach, Strasburg, Selz (opposite Rastadt), Lauterbourg, Germersheim (opposite Philipsburg), Spire, Mannheim, Worms, Mayence. There are others between Strasburg and Spire, but they have the same issues.

Before the active campaign commenced, two generals on each side faced each other on the Rhine. The Austrian army of the Upper Rhine from Basle to Mannheim was commanded by Marshal Wurmser, to whom was opposed Moreau. The army of the Archduke Charles extended from below Mannheim to the Sieg river, to which was opposed the army of the Sambre-and-Meuse under Jourdan. The advantage in numbers disposable for the field was at the outset on the side of the Austrians, especially in cavalry.

Means of passage by either party.

The French possessed only one fortified bridge, that of Dusseldorf. The Austrians had one at Mayence, another at Mannheim. Elsewhere, if either party wished to cross, they must force a passage or throw bridges.

The Austrians had intended to assume the offensive, advancing towards the Moselle. But the successes of Napoleon in Italy had their influence in this other theatre. Early in June, Wurmser, with 25,000 men, was detached to aid Beaulieu; and after this diminution of strength, the offensive plan was no longer practicable.

First object of the French.

The French Directory, anxious to transfer the burthen of the war to Germany, ordered their generals to cross the Rhine. The first combination of the French had for its object to secure the passage of the river for Moreau's army.

Jourdan, throwing part of his force across at Dusseldorf, pressed back the Austrian Right; and the right bank down to Neuwied being thus opened, he crossed there with his main force, and pushed the Austrian force north of the Lahn, back upon that river.

This movement was meant to draw the Archduke from Mayence; and it had the desired effect. Leaving 20,000 men in the intrenched camp there, he marched with the remainder of his army to the Lahn and turned Jourdan's left flank. The French general thus threatened, finding that the object of his advance was gained, retired beyond the river.—(19th to 21st June.)

The thin Austrian cordon from Basle to Mannheim, weakened by the draft for Italy, and deprived of the support of the part of the Archduke's army withdrawn from Mayence, now invited an attack. Moreau, after making (20th June) a false attack with his Centre and Left on the works covering Mannheim, marched 12,000 men up the Rhine, under pretence of aiding Bonaparte in Italy. Near Strasburg they were joined by 18,000 of the Right Wing marching down the river; and the whole, under the orders of Desaix, passed above Kehl, by flying bridges and boats, on the 23d and 24th June.

Mannheim to Strasburg, 86.

Moreau passes the Rhine.

The Austrian Left Wing of the army of the Upper Rhine above Kehl was cut off by this movement, and assembled about Friburg.

The mass of the Centre was between Rastadt and Mannheim.

The Right was marching from Mannheim to join the Centre.

The Archduke, with a portion of the other army, began his march from the Lahn to reinforce the Army of the Upper Rhine, when he heard of Moreau's passage, 26th June.

Pending his arrival, the position was this—

Austrian positions.

The Austrian Left Wing was at Haslach.
A detachment under Stein guarded the Kinzig valley.
A detachment under Starray the Rench valley.

The defiles to the Danube thus closed, Latour, who commanded in the Archduke's absence, awaited his arrival behind the Murg.

Moreau, after pushing the scattered Austrians back into the defiles, waited in the Rhine valley, posted from the Kinzig to the Murg, till the remainder of his Centre and Left from Mannheim should cross. A division of the Right Wing, under Laborde, was still on the French bank, from

French positions.

Brisach to Basle. It was opposed by a small Austrian corps; and throughout the advance into Germany, these corps neutralised each other on the side of the Tyrol, and may be left out of the general account.

On the 10th July, the Archduke having then come up, Moreau attacked him at Malsch; and having defeated his immediate left in the mountains, the Austrians retired on Pforzheim.

General Austrian plan.

It was at Pforzheim that the Archduke determined on his general plan. His first object was to regain the Danube, for he had great magazines about Ulm, and he was desirous of recovering communications with his Left Wing, under General Frölich, then retreating on a separate line through the Forest, followed by Moreau's Right Wing, under General Ferino. The Danube gained, his next object may be best expressed in his own words: "To dispute the ground foot by foot, without accepting battle; to profit by the first opportunity to reunite his divided troops; and to cast himself with superior, or at any rate equal, forces, on one of the two armies of the enemy."

Frankfort to Pforzheim, 100.

The "divided troops" he alludes to are not merely his main body and Left Wing. He had left, of his own original command, about 30,000 infantry and 15,000 cavalry, under General Wartensleben, to oppose Jourdan in the northern portion of the theatre. The French general, considerably superior in numbers, had recrossed the Rhine, and pushed Wartensleben back across the Lahn and Mayne; and then, with his army considerably diminished by detachments to a corps under Marceau, left to besiege or mask Austrian garrisons in places on the Rhine, he continued to drive the enemy opposed to him along the course of the Mayne.

The historians of the war have left the numbers on both sides at different junctures in hopeless confusion; so that, taking any statement of them at the outset as a basis, it is impossible to reconcile subsequent accounts. The armies on both sides were probably reinforced frequently from the interior of their respective states; and both were greatly diminished—the Austrians to garrison places on the Rhine, the French to invest them, and to cover their own points of passage.

It is doubtful whether the French armies, after the first combination for securing the passage of Moreau had succeeded, were guided by any definite concerted plan beyond the continual advance on both lines against

the Austrian armies. Some writers ascribe to them a comprehensive design of uniting the two armies of the Rhine and the army of Italy upon the Inn, for a combined advance on Vienna. But the accomplishment of this was dependent on the progressive advance of each of the three armies against all resistance, across a large portion of the theatre; and a check to any one would destroy the combination. However this may be, the French generals in Germany appear to have been instructed to operate against the *outward* flanks of the Austrian armies: that is, Jourdan was to turn Wartensleben's Right, and so press him out of the theatre; Moreau on attaining the Danube was to operate between the river and the Tyrol, so as to be ready to combine with the army of Italy. At any rate, this was the course followed, and the Archduke's design of combining his forces for an attack on one army was thereby greatly favoured.

General French plans.

Wartensleben's orders (he being inferior to Jourdan by 14,000) were to contest all practicable ground, retiring as slowly as possible, so as to afford opportunities for the projected junction.

13th to 19th July.—Wartensleben evacuating Frankfort retired upon Wurzburg.

Frankfort to Wurzburg, 70.

The Archduke retired from Pforzheim across the Neckar to Cannstadt and Esslingen.

18th July.—Moreau's Centre on Stuttgard—his Left on the line of the Austrian retreat.

The Archduke's retreat on Ulm was now secure. But his army was enfeebled by two causes: 1st, by the garrisons he had thrown into Mayence, Ehrenbreitstein, Königstein, Mannheim, Philipsburg—in all, 30,000 men; 2d, by the defection of the contingents of Saxony, Suabia, and Baden, which states withdrew their forces when their territories were uncovered by the retreat of the Austrians. His numbers were thus reduced to—

24,000 infantry—11,000 cavalry,
Against 45,000 infantry— 5,000 cavalry;

Numbers of the hostile forces.

not counting the respective wings of the two armies operating in the Black Forest, where the French had also a superiority.

Resuming his retreat, he fell back to a position where he covered the road Aalen-Wurzburg, by which a junction with Wartensleben might

Aalen to Wurzburg, 80.

be effected. But on the 26th, when he took position there, this junction was no longer practicable, since Wartensleben had retired from Wurzburg, followed by Jourdan, on the 22d. The Archduke had therefore no longer any reason for retaining his strong position in the defiles —in fact, he had good reason to hasten his retreat. For there was still hope of effecting the desired junction by Ingolstadt or by Ratisbon; but if he were to linger too long, Wartensleben might be driven quite out of the theatre, when nothing would be left for the Archduke but to fall back to Enns or Budweis. Therefore he recommenced his retreat through the defiles on the north bank of the Danube, till his Left rested on the river between Gunzburg and Dillingen, and his line stretched thence by Heidenheim, Neresheim, towards Nordlingen; and he destroyed all the bridges on the Danube between Ulm and Donauwerth, except that above Gunsburg, left to facilitate his junction with the Left Wing, then near him on the south bank.

The two armies faced each other for some days, the Archduke covering the evacuation of the magazines on the Danube; while Moreau reconnoitred the country (at that time very imperfectly known) before venturing to advance.

11*th August.*—The Archduke, seeing an opportunity in the disposition of Moreau's army, part of which was still in the defiles, attacked him at Neresheim. The action was indecisive.

13*th August.*—The Archduke crossed the Danube and joined his Left Wing.

14*th and* 15*th August.*—He moved down the Danube.

16*th August.*—He recrossed the river at several points near Ingolstadt.

Bamberg to Nuremberg, 36.

Meanwhile, Wartensleben had quitted Bamberg on the 2d August, sending his baggage to Egra; and being constantly outflanked on the right, had taken the direction of Nuremberg. The French followed, and

Nuremberg to Amberg, 38.

on the 9th, Wartensleben retired towards Amberg, where he arrived on the 12th. He had orders from the Archduke, with whom he was now in

Eichstadt to Neumarkt, 36.

communication by the line Eichstadt-Neumarkt, to remain there as long as possible; and Jourdan, finding himself in a difficult country of woods and ravines, and seeing his policy of outflanking the Austrian Right scarcely feasible, since there was but one road fit to operate by, halted to rest his army between Nuremberg and Amberg till the 16th.

17*th August.*—Jourdan from Amberg towards the Naab.

Bernadotte with a division at Neumarkt to cover the right flank.

Wartensleben retreating to the Naab.

Archduke, taking with him 20,000 infantry and 8000 cavalry, was marching from Neuburg towards Neumarkt. Archduke reinforces Wartensleben.

He left General Latour, with 30,000 men, on the Lech to contain Moreau, who had 60,000.

Moreau, in doubt as to the Archduke's movements, was still on the north bank of the Danube.

18*th to* 22*d August.*—Jourdan, with 45,000 (9000 of whom at Neumarkt); and Wartensleben with 34,000, faced each other on the Naab.

22*d August.*—Archduke attacked Bernadotte at Neumarkt, and drove him towards Nuremberg.

19*th August.*—Moreau passed the Danube at Dillingen, advancing to the Zusam.

23*d August.*—The Archduke, sending a detachment to pursue Bernadotte, and another towards Nuremberg, turned towards the Naab. He ordered Wartensleben to be ready to push Jourdan on the least appearance of a retrograde movement; and in any case to attack him on the 24th, when the imperial army would certainly debouch on the right flank of the French.

That night Jourdan, apprised of the retreat of Bernadotte and the advance of the Archduke, quitted the Naab to take position in rear of Amberg.

24*th August.*—Jourdan took position at Amberg.

Wartensleben advanced upon him.

The two Austrian armies joined, numbering in all 62,000, against 45,000 French; and Jourdan, after a partial action, commenced his retreat by Nuremberg, Bamberg, Schweinfurt, whence there was a road to the Lahn north of the Mayne. Jourdan retreats.

Moreau forced the passage of the Lech between Rain and Augsburg, with considerable loss to Latour. Moreau advances.

25*th to* 28*th August.*—Jourdan retreated to the Rednitz, followed by the Archduke.

Latour to the Iser followed by Moreau.
Austrian Right and French Left before Ingolstadt.

29th August.—The Archduke detached 10,000 men under Nauendorf to reinforce Latour.

Zeil to Schweinfurt, 18.

30th to 31st August.—The Archduke forced the Rednitz, and Jourdan fell back by Zeil to Schweinfurt. The Archduke followed to Bamberg.

1st Sept.—Latour, reinforced by Nauendorf, attacked Moreau's left at Geisenfeld in an indecisive action.

Jourdan at Schweinfurt.
Archduke advancing on Wurzburg.

2d to 3d Sept.—Jourdan, trying to gain the Wurzburg road as shorter and better to retreat upon, brought on an action, in which he was defeated and forced to retreat by the north bank. Each army made for the Lahn, the French by Arnstein-Giessen, the Austrians by Aschaffenburg-Frankfort.

3d to 8th.—The Austrians entered Frankfort.

Marceau, raising the blockade of Cassel, opposed them with the investing corps.

Moreau advanced his Centre to Freising and Moosburg—Wings before Ingolstadt and Munich.

Jourdan re-crosses the Rhine.

9th Sept.—Jourdan arrived on the Lahn, and was pushed thence over the Rhine, which he recrossed on the 21st.

Moreau, in doubt,

Moreau, ignorant of the fate of Jourdan's army, from which he had no intelligence except rumours, resolved to concentrate his army in a position on the Danube, where he could at once check Latour and be ready to move to the assistance of his colleague.

sends his Left across the Danube.

11th to 12th Sept.—Moreau moved to his left on Neuburg, sending Desaix towards Nuremberg as a diversion on the chance of favouring Jourdan.

Latour's Right crosses.

Latour followed. Nauendorf crossed to left bank.

13th to 18th.—Moreau halted on the Lech.

Archduke assails Moreau's communications.

On the 18th, Kehl, Moreau's point of passage on the Rhine, was attacked by the Austrian garrison of Mannheim, set free by the Archduke's success. The French force covering the communications with the Rhine, at first defeated, rallied and repulsed the attack.

Moreau retreats.

19th to 24th.—Moreau retreated to the Iller, where he took post from Ulm to Memmingen. Latour fronted him on the line Gunzburg-Augsburg.

Nauendorf was near Ulm on the north bank to prevent Moreau from moving towards the Archduke. Frölich with Latour's Left Wing was at Memmingen, and thence to Kempton, to keep Moreau from moving over the Alps towards Italy.

29*th Sept. to* 1*st Oct.*—Moreau in position behind the Lake of Buchau covering the roads into the Forest. Latour's centre at Biberach. Nauendorf from Ulm by Reutlingen to join the troops which had attacked Kehl, and which were now occupying the defiles of the Forest in rear of Moreau. Austrians manœuvre widely on his flanks.

The Archduke, bringing 16,000 men from the Lahn, had crossed the Neckar, 29th September.

Thus threatened in rear, Moreau resolved, before entering the defiles, to disembarrass his retreat of Latour, who, by the wide dispersion of his forces, invited attack.

2*d Oct.*—Moreau defeated Latour with heavy loss at Biberach.

4*th Oct.*—Moreau resumed his retreat, entering the defiles in three columns at Siegmaringen, at Stokach, and between Stokach and Lake Constance, followed by Latour. He defeats them, and retreats through the Forest,

8*th Oct.*—The Austrian detachments seeking to close the Villingen road were defeated by Moreau's leading division. The detachments retreated into the valley of the Kinzig.

11*th.*—The Austrian posts guarding the Höllenthal were driven on Friburg. and emerges in the Rhine valley.

12*th to* 15*th Oct.*—The French passed the Höllenthal.

The Austrian detachments from the Forest, and the Archduke's force, united in the Rhine valley on the lower Elz. Archduke concentrates there.

16*th and* 17*th.*—Nauendorf and Latour joined the Archduke. Moreau manœuvred ineffectually to reach Kehl by the Kinzig.

19*th.*—The Archduke attacked the French at Emmendingen and forced them to retreat.

21*st.*—Moreau threw a bridge at Brisach, and a division crossed the Rhine with orders to march to Kehl, recross there, and make a diversion on the enemy's rear, which might still enable the French army to remain on the right bank of the Rhine, and took with the remainder a strong position at Schliengen next day. Brisach to Kehl, 50.

The Archduke advanced and was joined by Frölich issuing from the Höllenthal.

24*th.*—The Archduke attacked Moreau's position.

Moreau recrosses the Rhine.

25*th.*—Moreau recrossed the Rhine at Huningen.

The Austrians besieged and took during the winter the fortifications of Huningen and Kehl.

COMMENTS.

What constitutes a double line of operation.

As the columns of a single army, destined for combined action, are often separated by considerable intervals while approaching their object, it is evident that the fact of separation alone cannot constitute a double line. It is when the separation is so complete—whether owing to distance, to obstacles, or to want of communication—that no concert exists between the armies, and the action of each is independent, that the case of the double line is presented. The Austrian were nearly as far apart as the French armies; but when once united under the Archduke, all their movements were directed with a purpose of constant co-operation and ultimate junction. Jourdan and Moreau had equal facilities for communicating and combining their forces against the enemy; the fact that they did not use them, while the Austrians did, thereby gaining a campaign with inferior numbers, fully displays the advantages of concerted action, and of interposing between the parts of an enemy's front.

When the Archduke moved on the 26th June with part of his army to reinforce the army opposed to Moreau, he took with him a force which left Wartensleben inferior to Jourdan, without giving himself a superiority over Moreau. Criticising this operation, he says himself that he ought to have left with Wartensleben only a force sufficient to observe Jourdan, and to have transferred to the other side of the theatre such numbers as would have enabled him to drive Moreau over the Rhine again. In fact, a consideration of the remarks at the beginning of this Part will show that if an army is not intended to fight, but only to retard the enemy, any increase of numbers beyond what is necessary will only serve to embarrass its own retreat rather than the advance of the enemy. For the essence of the retarding operation is, that the force performing it shall withdraw promptly before it is outnumbered. But with the extent of front occupied the difficulty of withdrawing without a battle increases, and with it the risk of loss. Consequently, if a retarding force

Limitation of the containing force.

be only just so inferior to the enemy as to be unable to accept battle, a great part of it will be always in column on the roads, and will therefore be only an encumbrance. The Archduke might have taken 15,000 additional troops from the Lahn to the Neckar, and still have enabled Wartensleben to fulfil his part, especially by leaving him strong in cavalry in that open country.

Transverse lines necessary for combination.

For the purpose of combination, good and direct roads between the Austrian armies were indispensable. Consequently the transverse lines, Frankfort-Heilbronn, Aalen-Wurzburg, Eichstedt-Neumarkt, Ratisbon-Amberg, became of vast importance. In order to combine, it was necessary that both Austrian armies should cover one of these transverse lines, or be in a condition to open it. Hence the difficulty of securing the opportunity of junction.

Circumstances in favour of the Austrian combination.

It may be said that when the Archduke left Latour on the Danube, the situation merely became reciprocal; for though he was about to outnumber Jourdan, yet Moreau equally outnumbered Latour, and therefore a blow struck on one side might be balanced on the other. But there were two circumstances in favour of the Austrian commander. The first was, that Moreau remained for many days ignorant of the Archduke's design, and conceived himself still to be opposed by the same numbers as before, thus giving the Austrian general time to strike his first blows. And secondly, the direction of the Archduke's march menaced Jourdan's communications, and compelled him to retreat *apart* from Moreau; whereas, if Latour were compelled to retreat, he would fall back *towards* the Archduke, giving and receiving support.

As the Archduke, on arriving at Neumarkt, was already on Jourdan's flank, it would at first sight appear that he would have done better to retain that advantage by calling Wartensleben towards him, when together they might have anticipated Jourdan at Nuremberg, and cut off his retreat. But Jomini suggests two very probable reasons why Wartensleben was not ordered to manœuvre by his flank towards the Prince. One was, that apparently no practicable road existed from Wartensleben's left to the Archduke's right. The other was, that Wartensleben, in so manœuvring, would uncover the direct road to Ratisbon, and that Jourdan, despairing of effecting a retreat, might join Moreau on the Danube. In fact, he would thereby be resorting to the alternative that

has already been indicated as being frequently the best which a commander cut from his base can adopt—namely, to traverse the communications of the enemy.

As it was, Jourdan, at Amberg, formed front to a flank, and, when defeated, still found the enemy aiming at his base on the Rhine by a shorter road than he possessed himself. It was owing to this that Jourdan's retreat was so precipitate; fearing to be anticipated on the Lahn, he passed in twenty-nine days over the same distance between the Naab and the Rhine which it had cost him fifty-six days to traverse when following Wartensleben.

Jourdan once beyond the Rhine, the Archduke, by a march parallel to his own base, struck at the communications of Moreau. And even had Jourdan, on learning his departure, been in condition to recross the Rhine, still the containing force left there, backed on the Archduke, would have kept him beyond the Mayne till the blow against Moreau had taken effect.

General deductions.

When, therefore, the parts of a combined force are interposed between independent armies advancing from a common base, the advantages of the former consist, 1st, in the power of mutual reinforcement and support; 2dly, in the ignorance of the enemy as to the side on which the blow will fall; 3dly, in the *direction* of the attack which both keeps them asunder and threatens their lines of retreat. And as the best remedy for the disadvantages of the situation is for the forces thus menaced to retire in order to combine; so the present case will be worse than that of an originally combined force, the front of which has been pierced, inasmuch as the absence of preconcert for such a contingency will render the junction still more uncertain.

Disadvantage of separation enhanced in the present case.

For these reasons, then, it seems that for two armies to operate against a combined enemy by lines where, from distance or want of concert, they are independent of each other, *is to confer on the enemy an advantage greater than that which has been demonstrated to follow from interposing between the parts of an extended front*, and that advantage will therefore be such as to compensate for considerable inferiority of numbers.

The advantage of concentrating an army whose communications are threatened is displayed in Moreau's retreat; when the Austrians, seeking

to close all the issues, laid themselves open to frequent disasters without preventing him from regaining the Rhine.

Archduke Charles on the duties of a containing force.

The objects to be kept in view by the commander of a retarding or containing force are well explained by the Archduke in his criticisms on Latour's operations. "If," he says, "Latour was too feeble to stop his adversary and hinder him by force from advancing, he should have sought to attain the same end by the direction of his movements and the choice of his positions. . . . If, instead of spreading his troops along the Lech, he had concentrated the greater part near Rain, and had rested always on the Danube without allowing himself to be separated from the Archduke, he would have fulfilled perfectly the object with which he was detached. If Moreau had advanced upon him, he had only to avoid the engagement, retiring upon Ingolstadt, where the bridge gave him the power of passing the Danube, establishing himself on the other bank and sending a detachment only on the Iser to stop the enemy's parties. Finally, there would remain to him the impracticable defile of the Altmuhl.

"In calculating the time which was necessary for Moreau to pass the Danube and arrive on the Altmuhl, it is evident that the conflict between the Archduke and Jourdan would be decided first. If victory remained with the Archduke, he might detach sufficient troops towards the Altmuhl to reinforce Latour—or better still, draw Latour half-way towards him, to undertake, conjointly, an operation against the flank and rear of Moreau. The consequences of a check while so operating would not be disastrous. Latour covering the retreat, the army, composed of all the troops of both corps, might in the last resort retire honourably into Bohemia: might even perhaps steal some marches on Jourdan, and, falling in force on Moreau, beat him, throw him back on Ingolstadt, pass the Danube there, and thus gain the Iser and the Inn before the enemy."

While gathering these lessons from the campaign, it is not to be inferred that it was perfect of its kind. The Archduke in narrating it has frankly owned his errors. The Austrian armies were driven to their very last line of possible junction, and had traversed great part of the theatre, before they combined. The retreat of Wartensleben from point to point might have been better timed, and its direction would have been more judicious by being more concentric, for by keeping so distant a line

he jeopardised the maintenance of communications with the commander-in-chief. And the measure of the force transferred to either wing for the decisive blows was not judiciously estimated.

Had the French armies operated each against the *inner* flank of the opposing force, driving the Austrians asunder, without, however, combining or concerting operations against them—Moreau, for instance, aiming to drive the Archduke back upon the Tyrol, Jourdan manœuvring to hem Wartensleben against the Mayne—the case would have borne the aspect of two distinct campaigns, where each general, on both sides, must have relied on himself for opposing his adversary. But had the French armies, besides interposing, also combined their operations, they would have commanded all the advantages which their actual measures left to their opponents.

At the moment of separating from Latour, the Archduke said, "Let Moreau go even to Vienna: that will matter little, provided I beat Jourdan." At first it would seem as if such an advance by Moreau would balance any success against Jourdan. But the fact is, that no success of Moreau *south of the Danube* would deprive the Archduke of his *base in Bohemia*, or prevent him from forcing Moreau to retreat by falling on his rear. His prevision, therefore, was fully justified.

Existing railways would connect German armies on the Mayne and Danube, and facilitate their concentration, by the lines,

Wurzburg-Donauwerth.
Wurzburg-Donauwerth-Augsburg-Ulm.
Bamberg-Donauwerth.
Bamberg-Ratisbon.

A railway also runs though the Austrian base from Prague by Budweis to Linz with the lines of supply,

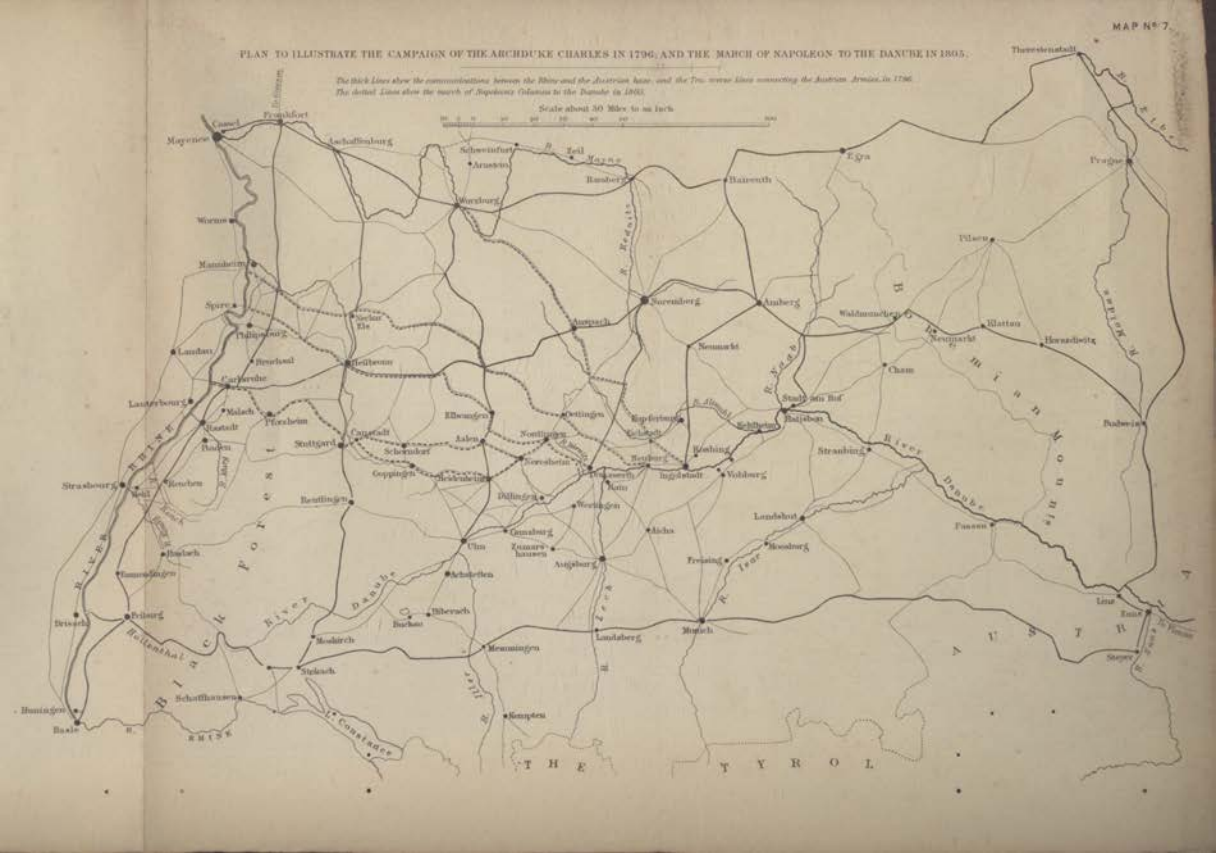
Prague-Pilsen-Amberg-Wurzburg.
Linz-Ratisbon.

MAP No. 7.

PLAN TO ILLUSTRATE THE CAMPAIGN OF THE ARCHDUKE CHARLES IN 1796, AND THE MARCH OF NAPOLEON TO THE DANUBE IN 1805.

The thick Lines show the communications between the Rhine and the Austrian base, and the Two inner Lines connecting the Austrian Armies in 1796.
The dotted Lines show the march of Napoleons Columns to the Danube in 1805.

Scale about 30 Miles to an Inch.


Mayence
Cassel
Frankfort
Aschaffenburg
Schweinfurt
Anspach
Bamberg
Wurtzburg
Worms
Mannheim
Spire
Philipsburg
Landau
Bruchsal
Carlsruhe
Lauterbourg
Malsch
Ettlingen
Rastadt
Pforzheim
Pforzen
Stuttgard
Calmbach
Schornbarg
Asbrn
Nortlingen
Goppingen
Heidenheim
Neresheim
Elwangen
Oettingen
Eggelfeting
Gelnhausen
Ingolstadt
Neuburg
Volkburg
Donauwerth
Dillingen
Werthingen
Gunsburg
Ulm
Zusmarshausen
Augsburg
Schrobenhausen
Munich
Landsberg
Freising
Landshut
Rosenheim
Passau
Linz
Ens
Steyer
Nuremberg
Amberg
Ratisbon
Forchheim
Baireuth
Egra
Prague
Pilsen
Waldmunchen
Neumarkt
Cham
Straubing
Hengau
Wasserburg
Wasserburg
Wasserburg

CHAPTER IV.

SUBJECT CONTINUED.

A VARIETY of the same problem is offered by the case of an army which, in covering some point, such as the capital of an empire, is assailed by armies whose general aim is to reach that point, and who, so far, act in concert, but who follow distinct paths towards it.

The great example of this is the campaign of 1814 in France, when Napoleon with a single army covered Paris against the Allies, who were converging on the capital by three lines—namely, from the Upper Rhine, from the Lower Rhine, and from Holland. But as that campaign affords also the best illustration of a problem of *obstacles*, it is reserved for a subsequent chapter.

CAMPAIGN IN VIRGINIA, 1861.

The campaigns in Virginia being directed against Richmond, and generally by more than one line, afford several instances of the case under discussion. See Map No. 8.

In June 1861 the Confederate capital was menaced by two armies. One under General Patterson, about 20,000 strong, was on the Upper Potomac, about Williamsport; the other under M'Dowell was preparing to advance from Alexandria towards Centreville. Opposed to Patterson was the Confederate general Johnston, with 11,000, at Harper's Ferry; and General Beauregard was organising a force on the Bull Run stream to oppose the advance of M'Dowell. West of the Alleghanies, M'Clellan, Various lines of operation.

with a great superiority of force, was operating against the Confederates under Garnett.

Confederate transverse line.

Beauregard's position covered the junction of two railroads at Manassas. One running south-west to Gordonsville, branched there to Richmond and Lynchburg; the other ran westward into the Shenandoah Valley. And the only safe communication between the two Confederate armies thus separated by the Blue Ridge of the Alleghanies, was up the valley, to Strasburg or Front Royal, and thence by the Manassas Railroad. Therefore, when Patterson, crossing the Potomac, advanced on Martinsburg, he threatened not only to cut Johnston from Beauregard, but also to seize the road leading on Beauregard's flank. Should both Federal armies advance simultaneously, Johnston's force would be isolated, and Beauregard's exposed to their combined attack. Nor was this all; for on reaching Winchester, Patterson might be joined by M'Clellan. Winchester and Manassas Junction were therefore points absolutely necessary to the Confederates for mutual defence and support, the occupation of either being dependent on the possession of the other.

Consequences of losing it.

Winchester to Manassas Junction, 60.

Johnston, in falling back, covers this line.

Accordingly, when Patterson advanced, Johnston, on the 16th June, fell back from Harper's Ferry towards Winchester. He thus maintained his communications with Beauregard, and prevented the combination of Patterson and M'Clellan.

Harper's Ferry to Winchester, 28.

16*th July.*—After various indecisive manœuvres and movements to and fro in the valley, Patterson, again advancing towards Winchester, paused, and began to extend his left eastward as if to combine with M'Dowell.

M'Dowell advances.

That day M'Dowell, 60,000 strong, advanced from Alexandria to Fairfax Court-House.

Alexandria to Fairfax C.H., 16.

17*th.*—Beauregard's troops, about 20,000, were assembled at the various passages over Bull Run which might be approached by roads from Fairfax Court-House.

18*th.*—M'Dowell made a partial attack on the line of Bull Run, which was repulsed.

Johnston moves to combine with Beauregard.

Johnston, quitting his camp, marched through Winchester to Millwood, on his way to reinforce Beauregard; masking the movement by an advance of cavalry towards Patterson's position, as if menacing an attack. Passing the Blue Ridge at Ashby's Gap, he halted at its eastern base.

19*th July.*—Jackson's brigade, of Johnston's force, moved by rail to Manassas. The cavalry and guns marched by the road.

20*th July.*—M'Dowell spent this day, as he had spent the 19th, in reconnoitring Beauregard's position. The rest of Johnston's troops were still detained near the Blue Ridge by an obstruction on the railway which prevented transport.

21*st July.*—M'Dowell, leaving his Left in Centreville, to cover the road to Alexandria from a counter-attack, threw his Centre and Right forward to the river at various points. Outflanking the enemy by the extent of front occupied by his superior numbers, his Right passed the stream and turned the Confederate Left. Beauregard met the onset with his immediate reserves, which, though successful in repulsing some of the continual attacks on that side, were on the whole pressed back. But the railroad being now clear, Johnston's troops began to arrive on the field. The direction of their advance brought them on the flank and rear of the Federal Right Wing, already stoutly opposed. The result was the well-known panic flight of the Federal army.

Confederates combine against M'Dowell.

Patterson, on finding Johnston gone from his front, retired on Harper's Ferry.

Patterson recrosses the Potomac.

CAMPAIGN IN VIRGINIA, 1862.

In 1862, Richmond was again threatened on several lines.

Federal lines.

M'Clellan, with the main army, 85,000, landing on the Yorktown peninsula, and establishing his depots at White House, on the Pamunkey, was advancing on the capital by the roads leading across the Chickahominy.

White House to Richmond, 20.

On his right, M'Dowell, with 35,000, advanced from Fredericksburg towards the Upper Pamunkey to combine with him.

Fredericksburg to Richmond, 55.

Sigel was at Manassas Junction, connected by a brigade at Front Royal with Banks in the lower part of the Shenandoah Valley.

Fredericksburg to Manassas Junction, 35.

Fremont, with the army of Western Virginia, was entering the upper part of the Shenandoah Valley from Franklin.

Franklin to Manassas Junction, 120.

Norfolk, in Virginia, and several points in North Carolina, were also threatened by detachments landed on the coast.

On the Confederate side, 12,000 men under Magruder opposed M'Clellan's advance.

Confederate positions.

Jackson, with 15,000, was in the Shenandoah Valley covering the issues through the mountains from Franklin on the one side, and also fronting Banks towards Winchester and Front Royal.

At Norfolk, and the threatened points in North Carolina, were considerable detachments.

Johnston, with the main Confederate army, was in and around Richmond. And a Confederate corps under Anderson faced M'Dowell on the Rappahannock.

Jackson defeats Fremont.

Early in May, and before M'Clellan was established on the Pamunkey, Jackson, concentrating superior forces between Woodstock and Harrisonburg, had defeated successively two of Fremont's brigades, forming the advanced-guards of his columns, as they issued from the mountains, and driven them back on Franklin. Fremont, thus repulsed, remained in Western Virginia.

M'Clellan advances on Richmond.

22*d May.*—M'Clellan's army, pushing back Magruder, was assembled on the Chickahominy. At this time the Confederate detachments in North Carolina, and the garrison of Norfolk, had been called into Richmond, and Johnston's main army, reinforced by these troops and by Magruder's, opposed M'Clellan's further advance.

Jackson defeats Banks.

23*d May.*—Jackson attacked and destroyed Banks's detachment at Front Royal.

24*th May.*—Jackson continued his march down the valley to attack Banks.

25*th May.*—Jackson attacked Banks at Winchester, and drove him down the valley and over the Potomac with severe loss.

The President retains M'Dowell's corps.

26*th May.*—The Federal President, learning Banks's disaster, and fearing for the safety of Washington, instead of allowing M'Dowell to continue his movement towards M'Clellan, recalled the troops which were already on the march, and despatched the corps to close the avenues to the capital, by Front Royal and Centreville, against Jackson.

Anderson falls back to Hanover.

The Confederate force under Anderson, which had been opposed to M'Dowell, under the joint menace of his advance and of M'Clellan's position, had withdrawn towards Richmond, and was this day at Hanover Court-House, where it might still oppose the junction of those generals, and also form a connecting link between Johnston and Jackson through Gordonsville.

27*th May.*—M'Clellan, seeing his Right thus threatened and his further movements embarrassed by Anderson's position, detached from his Right a body of troops, under Porter, who drove a Confederate division from Hanover Court-House upon Richmond. M'Clellan seizes Hanover C.H.

31*st May.*—Johnston from before Richmond attacked M'Clellan's Left Wing on the right bank of the Chickahominy, and, after a partial success, was repulsed. Lee succeeded to the command, Johnston being wounded.

M'Clellan now occupied himself with strengthening his own position on the Chickahominy, and bridging the stream at many points before finally advancing upon Richmond.

Jackson, reinforced from Richmond, was at Gordonsville, from whence, by feints on all sides, he checked Fremont, Banks, Sigel, and M'Dowell. Gordonsville to Richmond, 74.

21*st June.*—Jackson's troops began to move along the Virginia Central Railroad towards M'Clellan's Right.

25*th June.*—M'Clellan began his final advance upon Richmond.

Jackson's advanced troops reached Hanover Court-House.

26*th June.*—Jackson, in concert with Johnston, part of whose army was transferred from before Richmond to the left bank of the Chickahominy, fell upon M'Clellan's Right. Jackson combines with Johnston.

27*th June.*—M'Clellan's troops on the left of the Chickahominy were thus compelled to form front to a flank. He let go his hold of the York river, and by means of his flotilla established a new base on the James river, in rear of both his wings. M'Clellan changes his front and base,

The series of attacks which forced him through seven days of continual battle back upon the James, now commenced, and lasted till the 3d July, when he gained the shelter of his gunboats on the river. and retreats to the James.

The troops of Sigel (who had also Fremont's corps), Banks, and M'Dowell, were now united into an army under General Pope, whose instructions were to advance upon Gordonsville and take the pressure off M'Clellan. On the 18th July his advanced-guard reached Orange Court-House. Opposed there by Confederate troops from Richmond, he halted. The other Federal army advances under Pope.

Meanwhile M'Clellan had been fortifying his position, and meditating another advance by the line of the James, on Richmond, which was still covered by the main Confederate army.

5*th Aug.*—Jackson's corps, detached by Lee, approached Pope's front,

Jackson opposes Pope.

and the Federal general withdrew beyond the Rapidan towards Fairfax. His divisions, some of which guarded the gaps of the hill-range in his rear, were spread over a space of 30 miles.

9th Aug.—Jackson, whose object was to induce Pope to keep a forward position till the main Confederate army should arrive, fell back over the Rapidan to await Lee.

Lee combines with Jackson.

17th Aug.—Lee, from Richmond, arrived on the Rapidan.

M'Clellan's troops were now embarking for Alexandria.

M'Clellan embarks for Washington.

Lee and Jackson, together, had 70,000 men.

Pope, who had 50,000, retired over the Rappahannock.

Pope retires.

25th and 26th Aug.—Jackson with his corps, 18,000, moved up the Rappahannock, and thence along the eastern slope of the Blue Ridge, by

Jackson turns Pope's Right.

Orleans and Salem, covered by the hills of Bull Run. Having completed his circuit round Pope's Right, he descended by Thoroughfare Gap upon Bristow Station of the Orange Railway, in rear of the Federals.

27th Aug.—Pope, thus menaced, advanced by the Warrenton road and by the railway upon Jackson, to clear the line to Alexandria.

At his approach, Jackson retired along the railroad to Manassas Junction, destroying a Federal brigade there.

M'Clellan reinforces Pope.

Pope was reinforced by two of M'Clellan's divisions from Alexandria.

28th Aug.—Jackson continued his retreat across Bull Run, and held the line of the river. Pope continued to close upon him.

29th Aug.—Jackson in position, Left near Centreville, Right towards Thoroughfare Gap, was attacked on his Right by Pope's Left column which had marched from Warrenton.

Lee supports Jackson.

Lee's army, following Jackson's march, began to issue from the Gap.

Pope's Right entered Centreville.

30th Aug.—Lee's army, having defiled through the Gap, formed line on Jackson's Right, reaching beyond Pope's Left.

Pope formed his Right Wing obliquely across the Alexandria road at Centreville.

Pope, defeated, retreats.

Lee attacked and defeated Pope, who, with heavy loss, retreated entirely on Centreville.

Two other divisions of M'Clellan's army, 20,000, arrived to reinforce Pope.

31st Aug.—Both armies remained in position.

1*st Sept.*—Jackson, moving by his left along the hills, threatened the Centreville-Alexandria road.

Pope resumed his retreat.

Pope retreats on Washington.

2*d Sept.*—The remains of Pope's army, greatly disorganised by retreating under constant pressure, regained the lines of Alexandria.

COMMENTS.

Those operations differ from those of 1796 only in the fact that there was so much concert between the assailants as resulted from their having a common and definite object.

But in all these cases the advantage of operating *from* a common centre against widely separated bodies advancing *towards* that centre is apparent. Against one line of invasion a retarding and inferior force is used, while on the other a preponderating force is brought into action; and the first victory is the signal for the general derangement and failure of the enterprise.

Concentric army generally forms two wings and a central reserve.

To operate methodically to the best advantage, the covering army, if assailed on two lines, should place on each of these a retarding force at first, considering these as wings, while the mass in reserve is held ready to give a preponderance to either wing, or to both in succession. In all Napoleon's operations against a divided enemy this principle is apparent —at Jena for example, at Millesimo, at Eckmuhl, at Rivoli, and in the cases yet to be quoted of Waterloo, and of the campaign against the Allies on the Seine and Marne.

Proportion of force on each line.

If then, in such a case, the covering army were to be disposed on the two lines in exact proportion to the hostile numbers advancing on them, it would be operating on a false principle. For if in total numbers inferior to the enemy, it would be inferior on each line, and would therefore, presumably, be defeated on each: whereas, as already shown, the situation ought to be made to compensate for inferiority.

As the first movements will generally be in retreat towards the common centre, and as there can only be a limited number of transverse lines which will afford the opportunity of co-operation and combination between centre and wings, it becomes important to inquire to what dis-

tance from the point covered the parts of a covering army can operate without risk to the general principle.

If the parts of the covering army should fall back so far before striking a decisive blow, that the enemy's forces, converging, communicate and form one force, all the advantage of the situation is lost, and the defenders are thrown on their tactical resources. Thus, in 1864, Lee on the Rappahannock and Breckenridge in the Shenandoah Valley, opposed Grant on the one side, Sigel on the other; while Beauregard on the side of Petersburg confronted Butler. Breckenridge defeated Sigel, and then reinforced Lee against Grant at Coal Harbour; and Beauregard successfully opposed Butler. But Grant, by a flank march to the James, came into communication with Butler; henceforward they formed one force; and Lee, notwithstanding his fortifications, could never subsequently shake them off. We can, then, form an idea of the minimum distance at which the concentric army can advantageously operate in front of the point it covers—namely, such as will keep the enemy's forces, as they gradually approximate on the converging lines, from uniting.

Minimum of radii of operation.

The maximum distance is less determinate. Yet it is desirable that it should be fixed in some degree, since a natural wish to protect as much territory as possible from the presence of the enemy might lead an army to operate on a frontier very distant from the capital, or other point specially covered. Space alone, when very long radii are used, may effectually destroy concert between parts of an army, even if those parts be nearer to each other than are the parts of the enemy. Even since the introduction of the field-telegraph, co-operation must be more difficult when the distance which mutual reinforcements must pass over is great, and the chances have thereby proportionately increased that, during their transit, unforeseen changes may have taken place in the situation of the opposing forces.

Radii must be short in proportion to their divergence.

But there is also another reason why the lines of operation should be limited in extent. It has been pointed out that the retarding force should be strictly limited, since a superfluous number would be an encumbrance on the one line, while its aid would be vitally important on the other. But a force thus retarding a superior enemy performs its duty with a certain loss. For the troops which the enemy first brings into action, being assured of immediate support from the army in rear, can manœuvre

Losses of the retarding force also limit its radius.

MAP No 8
Harrisburg
Susquehanna R.
Chambersburg
Gettysburg
Hagers T.
Williamsport
Antietam R.
South Mt.
Potomac R.
Martinsburg
Frederick T.
Monocacy R.
Romney
Harpers Ferry
Winchester
Shenandoah
Moorefield
Millwood
Bull Run Mts.
Potomac R.
Strasburg
Front Royal
Woodstock
Salem
Thorpe Gap
Bull Run
Centreville
WASHINGTON
Fairfax C.H.
Alexandria
Orleans
Manassas Railway
Brooks Gap
Franklin
N. Market
E. Shenandoah R.
Bristow
Junction
Warrenton
Orange Railway
Rappahannock R.
Fairfax
Harrisonburg
Acquia Creek
Rapid Ann R.
Fredericksburg
Gap
Staunton
Orange Court House
Gordonsville
Blue Ridge
POTOMAC RIVER
Mattapony R.
Hanover C.H.
Pamunkey R.
Rappahannock R.
River James
RICHMOND
White House
Chickahominy R.
Lynchburg
River
Appomattox
Petersburg
To Norfolk
James R.
SCALE OF MILES
10 5 0 10 20 30 40 50

to a flank with unusual boldness, and may moreover feel confident that no sustained offensive operation will be attempted against them. On the other hand, if the troops on the flanks of the deployed retarding force are slow in withdrawing towards the line of retreat, they are apt to be cut off—or, if they withdraw too soon, they may lay bare the rear of the centre; and it cannot be expected that on all occasions their movements should be exactly timed. Thus Zieten, in effecting his object of retarding the French columns on the Sambre, lost, in his retreat upon Fleurus, 1200 men. Were there not a reserve to make good these losses, the force would in a few days be so reduced as to be unable to make a stand, and could only be driven in perpetual retreat. According to the length of time that the force will probably be called on to act separately, must its numbers be increased; and on a very extended line, therefore, either the principle of the campaign would be lost sight of by the undue increase of numbers, or else the retarding force would be practically destroyed.

It must not of course be forgotten that an invading army uses as many roads for its advance as are conveniently near and sufficiently direct. In proportion to the number of these which are available will be the difficulties of the retarding force. For if it were to neglect any of them, the enemy's column on that road would turn its flank and arrive in its rear. Supposing, then, that 50,000 invaders are advancing along two roads; the example of Zieten shows us that, in an ordinary country, 7000 or 8000 defenders should be disposable on each of those roads, with a general reserve, say of 4000, for casualties. Thus 20,000 men will perform the duty of opposing the 50,000 on that line. Supposing, further, that the invaders are in two armies, 50,000 each; that, on the other side, 20,000 are at first thrown out to oppose them on each line, and the mass of the defensive army assembled at some central point; then 40,000 reinforcing one wing will give sufficient superiority to insure victory in a battle on that side, and, after detaching a pursuing force, will also bring a superiority on the other, and probably strike also in a fatal direction. Thus, 80,000 operating concentrically will be successful against 100,000 divided, in an ordinary country; but of course, if circumstances admit (as at Monte Legino and Bull Run) of the whole retarding force being with-

Advantage of the situation is at least 5 to 4.

drawn, and its weight cast on the other side, this increases the odds in favour of the combined army.

Choice of a line for the retarding force.

It is clear, also, that *when one line lies through an open country, and the other is difficult, offering few roads to the advance, and many natural obstacles, the retarding force should act on the latter.*

Also, when an invaded frontier is very distant from the object, and the defensive army decidedly inferior to the total forces advancing on a double line, it will be better, on military grounds, to make no serious stand near the frontier, but to direct the first efforts to keep the enemy on separate lines, and to fall back to a point where, his forces being diminished by the necessary conditions of invasion, the parts of the combined army shall be near enough to each other to strike concerted blows.

See Pt. II. ch. i.

The additional advantages of railway communication between the parts of the defensive army, and from these to the point they cover, need no comment.

Swiftness essential.

Lastly, it is evident that the situation is of decisive advantage only when turned to account by a leader who acts with promptitude and resolution. Slowness and indecision will be fatal to the inferior army, the commander of which must be swift to perceive and to use his opportunity.

CHAPTER V.

CASE OF COMBINED ARMIES OPERATING FROM DIVERGENT BASES.—CAMPAIGN OF WATERLOO.

THE Duke of Wellington while at the Congress of Vienna, foreseeing that Belgium would probably become the scene of hostilities, had indicated some measures necessary to be taken for the defence of the capital. There were many reasons why this territory should be the theatre of war selected by Napoleon. On other sides—on the Rhine frontier and along the barrier of the Alps—France was already strong against invasion, and comparatively few troops might, for the present, render her secure there. But the frontier adjoining Belgium was open, except for fortresses, which had not prevented the advance of a hostile army in the preceding year; and around Brussels lay the forces of Wellington and Blucher, which by their proximity were the most menacing to Paris. The advance of the Allies on that capital in 1814, and the occupation of the east and south of France by hostile armies had so much contributed to produce the state of public feeling which compelled the Emperor to abdicate, that he could not, when he entered France in 1815, venture to await, as in the preceding year, in a defensive attitude, the chances of invasion. He was compelled to become the assailant; it only remained to select the point of attack. The Allied armies in Belgium were now unsupported, but a few weeks would enable Russia and Austria to bring overwhelming forces into action. Could he, by a prompt attack, defeat the English and Prussians and gain Brussels, another stride would carry him to the Rhine, and with that great obstacle between him and his enemies, and its passages in his hands, he might, in the most favourable attitude, political as well as

See Maps No. 9 and No. 10.

Reasons for assuming the offensive.

military, await his enemies; while France, rendered by these first successes forgetful of late disasters, would be arming with new enthusiasm for the struggle. It is true he had but 125,000 men, while the opposing generals, exclusive of garrisons, could bring more than 200,000 into the field. But his army of veterans was one of the finest he had ever led; the French were accustomed to beat the Prussians; and Wellington's forces, besides being chiefly young soldiers, were made up of mixed and discordant materials. There was sufficient reason, then, for his selection of Belgium as a territorial line; but, looking to the circumstances and position of the hostile armies, he saw other grounds for expecting success.

Selection of a Theatre of War.

Allied bases and communications.

The Prussian army drew its supplies from Cologne. Its nearest communication lay through Liege. The English were based partly on Antwerp, partly on Ostend; and from the anxiety which Wellington displayed for the safety of his communications with Ostend, it is evident that they were essential to him. When both armies met in front of Brussels, their communications stretched right and left almost parallel to their front. If Napoleon, from the frontier between Lille and Rocroy, were to operate by his right, and on the right bank of the Meuse, he would come directly on the Prussian communications through Liege. If by his left, between the Lys and Scheldt (as Wellington expected), he would sever the English communications with Ostend. Therefore the Allies were obliged so to dispose their forces as not only to interpose on the main lines to Brussels, but also to protect the roads which linked them to their bases.

Extension of the Allied front.

Charleroi to Brussels, 35.

Three great roads lead across the frontier upon Brussels, from French fortresses, namely—

Lille-Tournay.
Valenciennes-Mons.
Beaumont-Philippeville-} Charleroi.

Had the Allied armies been both of them based on Antwerp, they would, by forming front on *any* arc of which these roads were the radii, have covered both Brussels and their base. As it was, their front extended from Oudenarde to Liege, that is, on an immense arc; and still covered their communications with their bases very imperfectly.

The headquarters of Blucher were at Namur, and his corps were thus posted:— Prussian positions.

Zieten's headquarters, ...	Charleroi.	Namur to Charleroi, 24.
Pirch's ,, ...	Namur.	Namur to Liege, 35.
Thielemann's ,, ...	Ciney.	Namur to Ciney, 20.
Bulow's ,, ...	Liege.	

Wellington's headquarters were at Brussels. His army, in two corps and a Reserve, was thus distributed— British positions.

Corps.	Divisions.	Stations.	
1st.	2d. Dutch-Belgian, . .	Quatre Bras, Nivelles.	Enghien to Quatre Bras, 24.
	3d. do. do. . .	Rœulx to Binche.	
	3d. British, . . .	Soignies to Rœulx, Braine, Enghien.	
	1st. do. . . .	Enghien.	
2d.	2d. British, . . .	Ath.	Ath to Oudenarde, 21.
	4th. do. . . .	Oudenarde.	
	1st. Dutch-Belgian, . .	Road of Grammont to Ghent.	
	Indian Brigade, . .	Thence to Alost.	
Reserve.	5th. British, . . .	Brussels.	
	6th. do. . . .	Brussels.	
	Brunswick, . . .	Brussels.	
	Nassau, . . .	Brussels road to Louvain.	
Cavalry.	Main body, . . .	Grammont, Ninhove.	
	Brunswick, . . .	Brussels.	
	1st. brig. Dutch-Belgian, .	Rœulx.	
	2d. do. do. . .	Rœulx to Mons.	
	3d. do. do. . .	opposite Maubeuge and Beaumont.	

The headquarters of the different corps and divisions being at the places indicated, the troops were so stationed between the frontier and the headquarters as to form a chain of posts towards the enemy. Thus, brigades of Zieten's corps observed the course of the Sambre, and the detachments on their right overlapped those of the Dutch-Belgian division whose headquarters were at Nivelles. The Prussian cavalry vedettes were pushed beyond the Sambre; and their line was taken up and extended by Dutch-Belgian cavalry, till these touched the outposts beyond Mons. In this way a cordon of sentries and vedettes was formed throughout the extent of frontier; the outposts which furnished and supported them were in neighbouring farms or hamlets; the supports on which these relied

were at other central points in rear of them; and the posts and supports were thus on concentric lines, the headquarters forming the final centre and point of assemblement of each division.

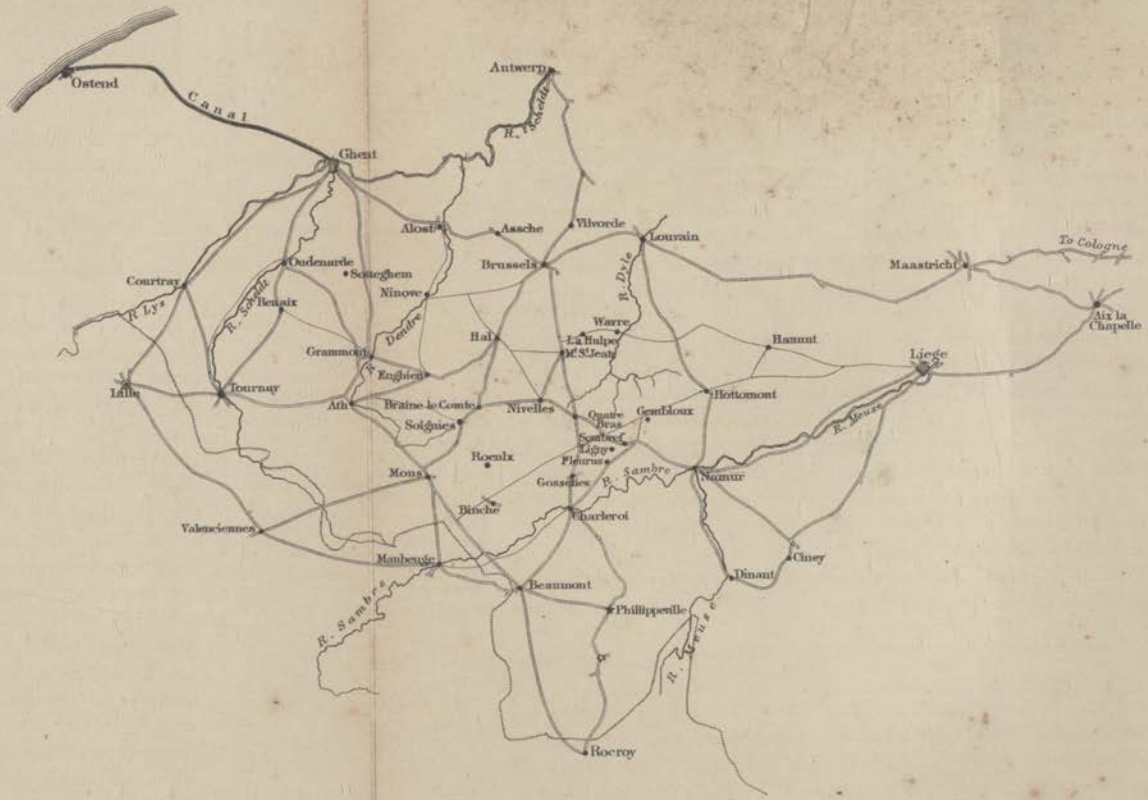
Choice of a line of operation.

Napoleon, having assembled the Army of the North behind the screen of the cordon of posts extending along the line of the frontier fortresses, had three courses open to him: 1st, he might move from his right into the space between the Meuse and Moselle (which runs to the Rhine east of the Meuse and nearly parallel), aiming at the Prussian communications; but this would compel the Prussians and English to concentrate, when the French must give battle with their backs to the Moselle, that is, fronting to a flank. Moreover, the roads in the valleys of those rivers were so bad at that time that such a measure was scarcely feasible. 2d, He might choose one of the three roads leading directly on Brussels; this was the course which he actually took, and therefore it need not be discussed in this place. 3d, He might advance from Lille between the Lys and Scheldt, turning Wellington's Right, and severing his communications with Ostend; but this would compel the Allies to unite by throwing Wellington back on Blucher, when in an engagement the French must form front parallel to their communications, and with their backs to the sea. And it was a great advantage to Napoleon that Wellington expected him, even after the campaign was begun, to take the third course.

Napoleon having, then, resolved on the second alternative, it remained for him to choose between the roads already named. Those of Tournay and Mons were closed by those fortresses which Wellington had caused to be put in a condition to resist a sudden attack. The French army advancing on either of them must either have delayed to besiege them, which would have given the Allies ample time to assemble on the threatened line, or have detached troops to mask them, thereby weakening the army for battle. On the Charleroi road no such obstacle existed; and, moreover, it led directly on the junction of the English Left and Prussian Right. If unable to oppose the advance, the Allied armies would, the Emperor calculated, incline each to its own base, and thus leave a gap through which he would penetrate to Brussels.

But there was yet another circumstance in favour of this line of operation. The lateral communication of the two armies from Zieten's

THEATRE OF THE WATERLOO CAMPAIGN



SCALE OF MILES

10 5 0 10 20 30 40 50

headquarters to General Perponcher's was by the road Nivelles-Namur. In rear of that road, behind the point of junction, is the country watered by the Dyle: a tract marshy, intersected, and traversed by none but country roads. If the Allies should lose the communication Nivelles-Namur, the next good road by which they could join would be Wavre-Brussels, or Louvain-Brussels, where their fronts would be on the line uniting the two bases Ostend and Cologne. Was it not probable that, rather than seek so perilous a junction, the Allies would retire each towards his own base?

Such were the conditions under which Napoleon, with his fine army of 125,000 veteran Frenchmen, of whom 20,000 were splendid cavalry, prepared confidently to assail two armies—one nearly equal to his own (Blucher had 116,000 men), and the other also formidable in numbers; for Wellington, exclusive of garrisons, could place about 90,000 men in line of battle.

Allied plans.

The general plan of the Allies—the only plan, indeed, which their defensive posture permitted them to form—was to retard as much as possible the French advance, and then to concentrate for battle on the menaced line. If Napoleon's attack were on the Allied Right, Wellington must try to detain him on the Scheldt till the Prussians should come into line: if on the Allied Left, Blucher must occupy him on the Meuse till the English could come up: if on the Centre, the troops of both armies already on that line must combine to delay him till the Allied forces could unite to deliver battle.

Concentration of the French.

On the night of the 14th June the French army was concentrated on the Charleroi-Brussels line as follows:—

Right Wing,	16,000,	Philippeville.	Beaumont to Charleroi, 18.
Centre,	64,000,	Before Beaumont.	
Left Wing,	45,000,	Leers and Solre-sur-Sambre.	

During the day the Dutch outposts between Mons and Binche, and those on the Prussian Right, had observed and reported that French troops had moved through Beaumont towards Philippeville. The commander of a brigade on the Sambre, reconnoitring on the right bank, apprised Zieten at Charleroi of the concentration of the enemy about Beaumont. Later in the day Zieten ascertained through his outposts,

which extended to the borders of the forest surrounding Beaumont, that strong French columns of all arms were assembled in his front, and that everything portended an attack for the following day.

Meanwhile National Guards had replaced the regular troops in the French fortresses, and had for a few days previous to the assembly of the army made such marches and shows of movements along the line of fortresses from Dunkirk (on the coast) to Maubeuge as might seem to indicate an attack on Wellington's Right. These movements were seen by the Duke's outposts, especially by those in front of Tournay, and doubtless tended to confirm his opinion as to the direction in which the expected attack would be made.

Advance of the French.

15th June.—Before daylight the three columns of the French advanced; the Right, which reached the river later than the others, on Chatelet, five miles below Charleroi on the Sambre; the Left, on Marchienne, a mile above the town; the Centre, on Charleroi. The Prussians defending these bridges were driven from them, and the heads of the French columns passed the river. Thus the front of the army, which from Philippeville to the Sambre had extended about eighteen miles, was contracted to six miles—not more than enough for the line of battle.

Zieten's corps a retarding force.

It was Zieten's business to delay with the troops of his corps the advance of these columns till the Prussians could concentrate. Accordingly he disputed the ground at all favourable points, till at nightfall his brigades, falling concentrically back, united behind Fleurus.

Prussians concentrate.

During this time, two other Prussian corps had been marching to concentrate on the previously-chosen field of Ligny. Thielemann, from Ciney, reached Namur; Pirch, from Namur, reached Mazy, six miles from Ligny; Bulow had received orders to concentrate his corps, and then march, but as he had not been made acquainted with the urgency of the case, he had delayed to march.

Opposite was the head of the French central column, about half of which was still beyond the Sambre on the Charleroi-Beaumont road. Half of the Right Wing had crossed, and was between Chatelet and Gilly.

Charleroi to Frasne, 10.

The whole of the Left had crossed; the head of the column was at Frasne, the rear on the Sambre at Marchienne.

Wellington, on first hearing of the French advance in the afternoon, issued these orders:—

"General Dornberg's brigade of cavalry and the Cumberland Hussars to march on Vilvorde, and bivouac on the highroad near that town.

"The Earl of Uxbridge will please to collect the cavalry this night at Ninhove, leaving the 2d Hussars looking out between the Scheldt and Lys.

"The first division to collect this night at Ath and adjacent, ready to move at shortest notice.

"Third division at Braine-le-Comte, ready, &c.

"Fourth division at Grammont, except the troops beyond the Scheldt, which are to move to Oudenarde.

"Fifth division, 81st Regiment and Hanoverian brigade of the sixth division, to be ready to march from Brussels at a moment's notice.

"Duke of Brunswick's corps to collect this night on the road between Brussels and Vilvorde.

"The Nassau troops to collect at daylight to-morrow morning on the Louvain road, ready to move at shortest notice.

"The Hanoverian brigade of the fifth division to collect at Hal, ready to move at daylight towards Brussels, and to halt between Alost and Assche for further orders.

"The Prince of Orange is requested to collect at Nivelles the second and third divisions of the army of the Low Countries, and should that point have been attacked this day, to move the third division British upon Nivelles as soon as collected.

"This movement is not to take place till it is quite certain that the enemy's attack is on the right of the Prussians and left of the British.

"Lord Hill will be so good as to order Prince Frederick of Orange to occupy Oudenarde with 500 men, and to collect the first division of the army of the Low Countries, and the Indian Brigade at Sotteghem, ready to march at daylight."

On receiving other information these further orders were issued at ten o'clock at night:—

"The third division to continue its movement from Braine-le-Comte on Nivelles. British concentrate.

"The first division to move from Enghien on Braine-le-Comte.

"The second and fourth divisions from Ath and Grammont and also from Oudenarde, and to continue their movement on Enghien.

"The cavalry to continue its movement from Ninhove on Enghien.

"The above to take place at once."

16*th June*.—While the heads of the French columns of the Centre and Right Wing passed Fleurus towards Ligny, the rear portions closed on them and came into line. The Left Wing also, consisting of the corps of Reille and D'Erlon, began to advance and to close up to its front.

Nivelles to Quatre Bras, 7.

The General commanding the Dutch-Belgian division, the brigades of which were at Nivelles and Quatre Bras, took upon himself, on learning Ney's advance on the evening of the 15th, to concentrate his division at Quatre Bras instead of at Nivelles.

Zieten's corps at Ligny was reinforced at six in the morning by Pirch's from Mazy, and at noon by Thielemann's from Namur.

Napoleon's estimate of the situation.

Meanwhile Napoleon's views of the state of affairs were thus explained in a despatch to Ney, dated Charleroi, eight in the morning of the 16th:—

"I shall be at Fleurus in person before noon. I shall attack the enemy there if I encounter them, and clear the road as far as Gembloux. There, after what may take place, I shall adopt my course, perhaps at three in the afternoon, perhaps this evening. My intention is that, immediately after I shall have chosen my course, you will be ready to march on Brussels: I will support you with the Guard which will be at Fleurus or Sombref, and I shall expect you to arrive at Brussels to-morrow morning. You will march this evening if I form my plan early enough for you to be informed of it to-day, and to accomplish three or four leagues this evening, and to be at Brussels at seven o'clock to-morrow morning.

"You can then dispose your troops in the following manner:—The first division at two leagues in advance of Quatre Bras, if there is no hindrance; six divisions of infantry about Quatre Bras, and one division at Marbais, in order that I may draw them to me at Sombref if I want them; besides, it will not retard your march: Count de Valmy's corps (3d corps reserve cavalry) at the crossing of the Roman road with that of Brussels, so that I can draw it towards me if I want it; as soon as I have done my part, I will send him the order to rejoin you. I wish to have with me General Lefebvre-Desnouettes's division of the Guard (light cavalry), and I send you Count de Valmy's two divisions to replace it. But in my actual plan I prefer to place Count de Valmy where I may recall

him if I want him, and not cause General Lefebvre-Desnouettes to make useless marches, since it is probable that I may decide this evening to march on Brussels with the Guard. However, cover Lefebvre-Desnouettes's division with D'Erlon's and Reille's two divisions of cavalry, so as to spare the Guard, and because if there is any warm work with the English, it had better fall on the Line than on the Guard.

"You perceive thoroughly the importance attached to the taking of Brussels. That will, besides, throw open some chances; for a movement so prompt and sudden will cut off the English army from Mons, Ostend, &c.

"I desire your dispositions may be made so as to march your eight divisions at the first order on Brussels."

At two o'clock the same afternoon he writes thus to Ney through Soult:—

"The Emperor charges me to inform you that the enemy has assembled one corps of troops between Sombref and Bry, and that at half-past two Marshal Grouchy will attack it with the third and fourth corps.

"His Majesty intends that you also should attack whatever is in front of you, and, having pressed the enemy vigorously, that you should manœuvre towards us, to aid in enveloping the corps of which I have spoken. If this corps is driven back first, then his Majesty will manœuvre in your direction, to facilitate in like manner your operations."

Ney had also been informed in the morning by the commander of the first corps, Reille, who was at Gosselies, that the Prussian cavalry was still about Fleurus, and that large columns from Namur were advancing, and forming at St Amand.

He put the Left Wing in motion, in obedience to the Emperor's orders, and, pushing back the Dutch-Belgian detachment at Frasne, continued to advance, till at two o'clock the head of his column was in presence of Perponcher's division at Quatre Bras. Frasne to Quatre Bras, 2.

Wellington arrived at Quatre Bras from Brussels between 11 and 12 o'clock. From thence he reconnoitred Ney's position, and, concluding the enemy was not in force there, rode off to concert with Blucher, whom he found at a windmill between Ligny and Bry. He then saw the French dispositions for attack, and concluded that Napoleon was bringing his main force against the Prussians. To assist them the Duke proposed to

concentrate a sufficient force as soon as possible at Quatre Bras, march it upon Frasne and Gosselies, and from thence operate against the enemy's flank and rear. However, on calculating the time that must necessarily elapse before this sufficient force could be concentrated, and finding that Blucher might be defeated in the interval, it was agreed that, in order to save time, the Duke should move this supporting force down the Namur road, and thus come directly to the aid of his colleague.

Quatre Bras to Ligny, 8.

About 11 o'clock Napoleon arrived on the field beyond Fleurus. By 1 o'clock he had formed all his troops that had then arrived (60,000, with 204 guns) in order of battle. After making a reconnaissance in person, and receiving reports from his generals of the assembling of the Prussians for battle, he still thought that only one corps, that of Zieten was before him. He directed Grouchy, with two corps of infantry and three of reserve cavalry, to attack it about half-past 2, and thus commenced the battle of Ligny. The three Prussian corps numbered more than 80,000 men, with 224 guns. About half-past 5, Lobau, bringing the rear of the Centre from Charleroi, augmented the French force to 71,000 with 242 guns.

Battle of Ligny.

During the battle, Napoleon, becoming better aware of the force he was engaging, sent an order to Ney to direct D'Erlon's corps on St Amand. But Ney, after getting Napoleon's first orders (dated 8 o'clock), had directed D'Erlon on Frasne. He was near that place with the advanced-guard of his corps when an aide-de-camp from Napoleon reached him, who said that the Emperor, hotly engaged, needed aid, and that he had taken on himself to turn the head of the column towards St Amand by Villers Perruin. D'Erlon, sending to apprise Ney, followed to direct the movement of his corps (20,500 men and 46 guns). He arrived on the flank of the Prussians, and the head of his column had entered into the action of Ligny, when he received from Ney a peremptory recall. Accordingly he countermarched towards Frasne, and reached Ney at night-fall, after the action at Quatre Bras was ended.

Frasne to St Amand, 7.

It was almost night when the battle of Ligny drew to a close with the defeat of the Prussians. The corps of Zieten and Pirch retired to Tilly and Gentinnes; that of Thielemann, which covered the retreat, to Gembloux.

Retreat of the Prussians.

Meanwhile Ney, approaching Quatre Bras about 2 o'clock, had in hand 17,000 men and 38 guns to attack Perponcher's division of 7000 men and

Battle of Quatre Bras.

16 guns. The Dutch-Belgians sustained the first attack made with the head of the French column till half-past 3, when 2000 Dutch-Belgian cavalry which had assembled at Nivelles, in falling back from the country between Rœulx, Mons, and Binche, came on the field at the same time as Picton's division, which, detained for further orders at the junction of Mont St Jean, had been summoned to Quatre Bras by an order of the Duke, who had returned from his interview with Blucher in time to confront Ney. Brunswick's corps followed Picton's, when the Duke had 18,000 infantry, 2000 cavalry, 28 guns; Ney, as before, 15,700 infantry 1800 cavalry, 38 guns.

The next reinforcement was to the French. Kellermann joined Ney, who now had 3700 cavalry, 44 guns.

At 5 o'clock Halkett's brigade of Alten's division from Braine-le-Comte, and Kielmansegge's Hanoverian brigade with two field-batteries, joined Wellington, raising his force to 24,000 infantry, 2000 (defeated) cavalry, 40 guns.

Ney was also then reinforced by Kellermann's remaining division of heavy cavalry and troop of artillery. He now had 15,700 infantry, 5000 cavalry, 50 guns. Thus the battle was continued with a sufficiently even balance of force—the French counting 3000 cavalry and 10 guns against the Duke's excess of 8000 infantry.

At half-past 5, Ney, aware of the last reinforcement to the English, ordered D'Erlon up. Between 6 and 7 he learnt that his general had been directed on St Amand. He sent to recall him. Meanwhile the Anglo-Belgians had been reinforced as follows:—12 guns of Alten's division, 6 of the King's German Legion, 1 Hanoverian, 2 Brunswick battalions, the 1st British division from Enghien, with 12 guns. Wellington now had 30,000 infantry, 2000 cavalry, 68 guns. The French remained as before. Ney relinquished the conflict at nightfall. Both sides bivouacked on the ground.

17*th June*.—Wellington remained ignorant of Blucher's fortunes all night. But daylight showed him that Ney was still in position in his front, which would hardly have been the case had Napoleon been defeated. A reconnaissance along the Namur road ascertained that the French were upon it, between Quatre Bras and Ligny; and an aide-de-camp from Blucher shortly afterwards reached the Duke, having come by

a road farther in rear. Wellington sent his ally word that he would fall back towards Waterloo to effect a junction with him; and that, if Blucher would join him with two corps, he would await Napoleon's onset there.

Ninhove to Quatre Bras, 35.

Uxbridge's cavalry from Ninhove had come in in the night. Covered by it, Wellington began in the forenoon to withdraw his forces from Quatre Bras through Genappe upon Waterloo. This movement was almost completed when in the afternoon Napoleon's advanced-guard from Ligny appeared, and pressed the rear of the British cavalry as it retired through Genappe.

British retreat.

French Centre combines with Left.

The British troops from the right, then at Nivelles and Braine-le-Comte, were directed on Mont St Jean.

From Waterloo the Duke sent the following despatch to General Colville:—

"The army retired this day from its position at Quatre Bras to its present position in front of Waterloo.

Hal to Wellington's Right, 10.

"The brigades of the 4th division at Braine-le-Comte to retire at daylight to-morrow upon Hal.

"General Colville must be decided by the intelligence he receives of the enemy's movements in his march to Hal, whether he moves by the direct route or by Enghien.

"Prince Frederick of Orange is to occupy with his corps the position between Hal and Enghien, and is to defend it as long as possible.

"The army will probably continue in its present position in front of Waterloo to-morrow."

On the side of the Prussians, Zieten and Pirch retired from Tilly and Gentinnes by Mont St Guibert. Zieten's corps crossed the Dyle at Wavre and took up a position; Pirch's halted on the right bank.

Gentinnes to Wavre, 10.

Thielemann, arriving at Gembloux, found Bulow near that place. Receiving orders for the general concentration, Bulow's corps moved on Wavre, followed by Thielemann's.

French Right pursues the Prussians.

Napoleon's army remained at Ligny till the afternoon, when Grouchy with 33,000 men was sent in pursuit of the Prussians. His orders were to follow them, complete their rout, and never lose sight of them. He followed in the direction of Gembloux, and arriving there at 9 in the evening, many hours after the Prussians had left, reported to Napoleon

at ten that he believed the Prussians to be divided into three columns, one retreating to Wavre, one to Perwez, the third to Namur.

Napoleon quitted the field of Ligny with the rest of his army about the same time as Grouchy, and moved by the Namur road to Quatre Bras, where Ney was still in position. Their combined forces then followed Wellington's march to Waterloo, where the Duke was in position in front of the junction of the Nivelles and Genappe roads, with his centre across the latter.

Quatre Bras to field of Waterloo, 8.

18*th June.*—Between 11 and 12 the French commenced their attack on Wellington.

Prussian movements:—

Bulow at daybreak, through Wavre to St Lambert.
Zieten at noon, by Ohain towards Frischermont.
Pirch at noon, through Wavre to follow Bulow.

Wavre to Frischermont, 10.

At 8 in the morning, Grouchy, who had been reconnoitring on several roads for intelligence, began his advance by Sart-à-Walhain upon Wavre, and at noon his advanced-guard attacked Pirch's rear-guard on the right bank of the Dyle. Thielemann's corps, which was to have followed Zieten, was left on the Dyle at Wavre to oppose Grouchy.

Thielemann's corps a retarding force.

At 5 in the afternoon Bulow's advanced troops issued on the French right at Planchenoit.

Allied armies combine.

At 7 in the evening Zieten's advanced troops joined Wellington's Left at Frischermont.

At 7 also Pirch arrived in rear of Bulow, and was directed on Maransart.

The arrival of the Prussians decided the battle, and their attack being on the French flank and rear, while the English advanced on the front of the enemy, the defeated army was completely routed, and fled over the frontier by the great road of Charleroi, pursued by the Prussians.

French defeated.

19*th June.*—The main French army, almost dispersed, continued its flight.

Grouchy, who had spent the preceding day in attacking Thielemann on the Dyle, renewed the engagement at daybreak, and drove Thielemann's corps towards Louvain; but intelligence reached him at 11 o'clock of the defeat of Napoleon the day before. Masking the move-

French Right Wing, though successful, retreats.

ment by troops on the Dyle, he at once began his retreat by Mont St Guibert, upon Gembloux, for Namur.

Wavre to Namur, 28.

Pirch's Prussian corps marched on the night of the 18th to intercept Grouchy. It reached a point between Tilly and Gentinnes on the 19th at mid-day, but failed to advance further, or to discover that Grouchy's force was crossing its front.

Next day Thielemann and Pirch pressed the rear of Grouchy, who, leaving a division in Namur, made good the retreat of his corps along the Meuse by Dinant, and passed the frontier in good order.

COMMENTS.

Former chapters will have made the reader acquainted with the grounds on which Napoleon framed the design of this campaign, and threw himself with a force very inferior to that of the Allies upon their Centre.

In 1796, as in 1815, the armies opposed to him had advanced from divergent bases till they united; and when he pierced their Centre and destroyed their concert, Beaulieu had retired upon Acqui, Colli upon Turin. It was to be expected, therefore, that if the Centre of the Allies in Belgium were pierced, they also would retire towards their bases; that is to say, Blucher would take the direction of Liege, Wellington of Ostend or of Antwerp. And in their case a far greater difficulty would be offered to reunion than in that of Beaulieu and Colli, owing to the greater divergency of the bases and the lines that led to them. For if Blucher, driven from the line Sombref-Liege, should attempt to rejoin his colleague by that of Wavre-Liege, he would be operating on a front parallel to his line of communication; and the risk he ran is evident from the fact that, on the 19th, Grouchy, by defeating Thielemann on the Dyle, actually cut him from that line. Supposing, then, that Napoleon had beaten Wellington before Blucher's arrival on the field, the Prussian general would have found himself in the presence of a victorious enemy, with his own retreat cut off. Had he attempted to recover his communications with Cologne by Louvain-Maestricht, the French from Wavre would have been on that line before him, when another lost battle would have been ruin.

Disadvantage of divergent bases.

Remembering, then, the triumphs of his earlier campaign, and perceiving still greater advantages for an attack of the same kind upon the Allies in Belgium, Napoleon provided for it from the outset by dividing his army into two Wings, with which to feel the enemy on each side, and a Central Reserve to reinforce either at discretion. Thus, first, he joined his Centre to his Right against Blucher at Ligny; then, leaving his Right Wing to pursue the Prussians, he joined the main body to the Left Wing for the attack on Wellington. The recollection of what he aimed at, and of the result which precedents had led him to expect, furnishes a key to the incidents (many of them still disputed and misinterpreted) of the whole campaign.

French operate in two wings and Reserve.

Why did Napoleon throw his weight in the first instance on the Prussians at Ligny rather than on the English at Quatre Bras?—the intention to do which was made evident by the direction of his Centre upon Fleurus before he knew what the proportions of the hostile forces at those points might be.

Reasons for attacking Blucher first.

The essential conditions of Napoleon's plan were, to keep the Allies from uniting, and also to separate them in such a way as to open the road to Brussels.

The separation and consequent retreat of the Allies would be accomplished with equal certainty by seizing either of the two points, Quatre Bras or Sombref. So far it would seem almost a matter of indifference which might be the chief object of attack. But the Allied generals would then seek to reunite on the next available line. If either of them would attempt this movement with greater difficulty and risk than the other, it would be good policy to attack him first, since defeat added to his other disadvantages might render a junction impossible before his colleague should be defeated also.

The other Prussian corps were marching to join Zieten's by the roads Ciney-Namur and Liege-Hottomont. Pirch from Namur would be the first to join Zieten. Were Pirch and Zieten defeated, or Zieten only, before being supported, they would, by retiring on Hottomont, be separated from Thielemann, or, by retiring on Namur, be separated from Bulow. If hotly pursued, it might be necessary to retreat to Hannut or Liege. For, as already stated, the course proper for the parts of an army thus separated is to retreat in order to recombine; and Blucher must

unite his own forces before he could aid his colleague. But at Hannut, Liege, or even Hottomont, he would still be very far either from Wellington or Brussels.

On the other hand, supposing that Napoleon had reversed the actual order of events, and had first brought his Centre to aid Ney against Wellington, and, leaving his Left Wing to pursue the British, had next brought his Centre to the aid of Grouchy against Blucher, Wellington, driven from Quatre Bras, would have retreated, as he did, towards Waterloo; his troops, then on the march to join him, would have been directed, as they were, on Hal, whence Ney could not have prevented them from marching to join Wellington. Meanwhile Blucher (who could not have been prevented by the small force in his front from assembling his army), aware of his colleague's retreat, would have marched to Wavre on the 17th, followed by the main French army. Posted on the Dyle, he could have maintained the battle till Wellington, leaving a force to contain Ney, should bring the rest of his army to La Hulpe or Wavre to overwhelm Napoleon. The great battle which was fought at Waterloo would have been fought at Wavre by the Allies united.

If, then, Blucher were attacked *before he could assemble his corps*, he would be driven apart from his objects; if Wellington were so attacked, he would not lose his hold either of Brussels or of his colleague. The general plan of Napoleon was perfectly calculated for success, and it was good policy to attack Blucher first.

Cause of failure.

But this plan failed in execution. Now we have already seen how much depends on promptitude of movement in operations of this kind. Napoleon did not attack at Ligny till two in the afternoon, when Pirch and Thielemann were with Zieten in line of battle, and when Bulow, but for his delay, should also have been on the field. And the reason why he did not attack sooner was, that only the heads of his columns were before the enemy. Now, as all the French troops started from the same bivouacs, there was no reason why, on those fine roads, the rear of the columns, which marched but did not fight, should not have accomplished the same distance as the heads, which both marched and fought. Had the army bivouacked in order of battle instead of in order of march, it would have been ready next day to defeat Zieten perhaps before Pirch had joined, certainly before the arrival of Thielemann.

In spite of these considerations, M. Thiers, in his zeal for the character of Napoleon as a general, has not scrupled to assume that the Emperor delayed to attack at Ligny in order that all the Prussians might assemble, and thus give him an opportunity of crushing them at once. It is not necessary to point out to the readers of this work, nor to any one acquainted with Napoleon's method of making war, how absurd is this assumption.

From the same motive the French historian severely blames Marshal Ney for not advancing towards Brussels before the battle of Ligny on the morning of the 16th, and afterwards on the morning of the 17th. It would of course have been extremely rash for Ney to have advanced beyond the Nivelles-Namur road till Napoleon had reached it with the main body, for he would have been exposing his flanks to the British from Nivelles, and to the Prussians from Sombref; and had the main French army been defeated at Ligny, his retreat would have been cut off. Under these circumstances nothing but an explicit order from Napoleon to advance at all hazards would have justified him in making the attempt. But the Emperor's orders of eight in the morning of the 16th were given under the supposition that Sombref and Quatre Bras would be occupied with little or no fighting, and that Brussels would be open to the French, and attainable in a single march. A chief in Ney's position must have discretionary power—and he is quite justified in using it when his instructions prove to have been given on a false theory of the facts. Moreover, Napoleon had attached to his orders the condition that "there should be no hindrance" to their execution. On the 16th, then, Ney did all that could be expected from a commander in his position, by preventing Wellington from aiding Blucher, and by covering the line of communication with France.

Ney's containing force could not advance alone.

Whatever excuse may be made for Napoleon's inactivity on the 17th applies also to Ney, whose troops had marched, fought, and suffered in action, quite as much as the Centre and Right Wing. It was the object of the French to unite for the attack on Wellington, and their end would be best answered if the English should remain in their position at Quatre Bras till Ney's attack in front could be supported by Napoleon's in flank. As the retreat of the British was concealed till the last moment, Ney's best policy, under the apparent circumstances, was to await the Emperor's

arrival, rather than risk defeat by assailing a superior enemy who had already proved too strong for him.

Movements of the pursuing wing.

The charges against Grouchy, made by various writers, resolve themselves into these:—

1st, That he ought to have pursued the Prussians in the direction of Wavre instead of towards Liege and Namur.

It is a sufficient answer to this, that Napoleon himself indicated the direction of the pursuit. In the first despatch from Soult to Ney of the 17th is the following passage:—"The Prussian army is routed. General Pajol is pursuing it on the roads of Namur and Liege."

2d, That Grouchy ought to have manœuvred constantly towards Napoleon.

In giving Grouchy his final instructions on the 17th, Napoleon said, "Communicate with me by the paved road that leads to Quatre Bras." This injunction was consistent only with a movement towards Liege or Namur—not towards Wavre; and had the Prussians really, as Napoleon supposed, retreated towards the former places, Grouchy, by moving in the direction of Wavre, would have uncovered to them the communications of the main army with Charleroi—to guard which against an offensive return of the enemy was one principal object of detaching the Right Wing.

3d, That Grouchy, on the night of the 17th, had reason to suppose, as we learn from his report, that the Prussians were moving in three columns, one on Wavre, one on Perwez, one on Namur; that he inferred that one of these columns might be intending to join Wellington, and that he should therefore have moved towards Napoleon.

But this is founded on the supposition that Grouchy knew Wellington would stop to fight at Waterloo, whereas he knew nothing of the sort; and he thought the Prussians, if they were really moving on Wavre, intended to join Wellington at Brussels. For he says in the same report, "If the mass of the Prussians is retiring on Wavre, I will follow in that direction, so that they may not gain *Brussels*, and that I may separate them from Wellington." And were they so moving, he, by marching to Wavre, would threaten decisively their communications with their base by Louvain, and so either prevent the execution of their project or render it disastrous.

4th, That Grouchy, when he heard the cannonade of Waterloo, ought to have turned towards the field.

If Grouchy had known that Blucher was moving from Wavre upon Waterloo—and if he could have marched himself towards that field with a fair prospect of joining Napoleon—he certainly should have attempted the movement; but his belief probably was, and continued to be, that the march which Thielemann's rear-guard was covering, was on Brussels or Louvain by the highroad, not on Waterloo by country roads. It was in this persuasion that he continued to attack Thielemann on the 19th. When Napoleon detached him to pursue the Prussians, it was with the understanding that the Emperor would engage Wellington with the French main body and Ney's force *only*, and it was no part of Grouchy's business to combine with his chief for that purpose. And had the theory entertained by Napoleon and himself of the Prussian movements been correct, it was clear that by seizing Wavre he would be in a commanding position. For should Blucher be moving on Brussels, Grouchy at Wavre would by an advance on Louvain cut him from his last line of communication with his base. Should Blucher be moving on Louvain in order to cover this his last line, Grouchy would join Napoleon at Brussels after the defeat which Wellington might be expected to sustain in standing to fight alone, and the whole French army would continue to be interposed between the Allies.

In fact, all the criticisms passed on Grouchy have been founded on a false conception of the duties of a containing force, and of Napoleon's general plan, or else have sprung from a failure to appreciate the facts as they presented themselves at the moment of action. As was said in a preceding chapter, for the execution of an operation of this kind it is necessary that the army so employed should preserve a superiority over its immediate enemy *after* detaching a force in pursuit of the portion first defeated. Grouchy was so detached; that his operations were ineffective was due to the tardiness of his pursuit, which, as well as its wrong direction, was owing to the false theory formed by Napoleon of the Prussian retreat, and confirmed in his mind by the precedent of 1796.

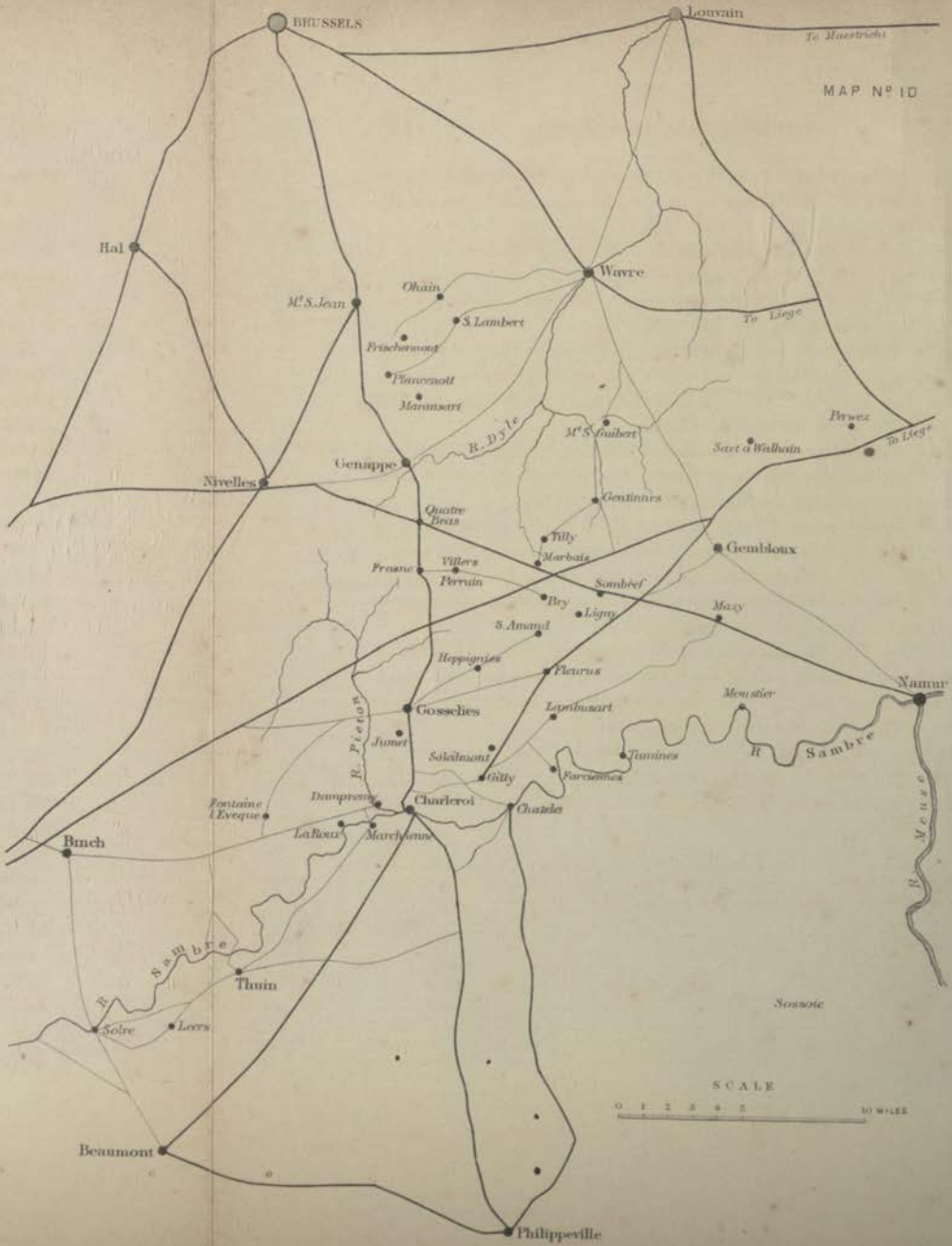
As to the prospect of Grouchy joining Napoleon after he heard the cannonade of Waterloo, it is only necessary to remember that Zieten, marching from Wavre at noon, and unobstructed except by the difficulties

of the road, only reached the field between seven and eight in the evening; and that Thielemann's and part both of Pirch's and Zieten's corps would have been available to oppose Grouchy's march without diverting from the field of Waterloo a single man who fought there. The Prussian outposts extended along the Dyle all round Grouchy's left flank, so that he could not have attempted the movement unknown to the enemy.

The force with which Napoleon operated was scarcely sufficient. For though he defeated the Prussians at Ligny, and was superior to Wellington at Waterloo, yet the absence of Bulow from one field, and of the 17,000 men left by Wellington at Hal from the other, were advantages scarcely to be calculated on. No doubt the Emperor counted, and justly, on his own skill and renown to make good the deficiency. But in ordinary cases the existing odds—namely, 206,000 against 125,000—would be too great for the attempt.

Quatre Bras and Sombref (meaning by the last-named the junction of the Liege and Namur roads) furnish additional examples of points of no special topographical importance becoming decisive by their relations to the forces in the theatre.

Why did Wellington station at Hal a force which was useless there, and would have been so valuable to him at Waterloo? This question is only to be solved by remembering what Wellington thought of the facts *as they presented themselves to him at a given time;* and by limiting ourselves to his horizon, instead of embracing that which is widened by our knowledge of the real circumstances. *Wellington could not know on the 17th or 18th that the French Right Wing was detached to follow Blucher.* For all he knew, the entire French army might be following himself. And if a French force *had* been detached to operate against Wellington's communications with Ostend (of which he was so jealous), by seizing Hal, and from thence threatening even Brussels and the line to Antwerp, it would only be executing against the British a manœuvre corresponding to that which Grouchy was actually executing against the Prussians. But this, though it may account for the direction of this British detachment on Hal on the 17th, does not satisfactorily explain its detention there during the whole of the 18th, at only ten miles from that field where it might have afforded such essential aid.


MAP No 10
BRUSSELS
Louvain
To Maestricht
Hal
Wavre
Ohain
Mt S. Jean
S. Lambert
To Liege
Frischemont
Plancenott
Maransart
R. Dyle
Mt S. Guibert
Perwez
Sart a Walhain
To Liege
Genappe
Nivelles
Gentinnes
Quatre Bras
Tilly
Marbais
Gembloux
Villers
Frasne
Perruin
Sombeef
Bry
Ligny
Mazy
S. Amand
Heppignies
Fleurus
Namur
Moustier
Gosselies
Lambusart
R. Pieton
Jumet
Soleilmont
Tumines
R. Sambre
Gilly
Farciennes
Fontaine l'Eveque
Dampremy
Charleroi
Chatelet
La Roux
Marchienne
Binch
R. Meuse
R. Sambre
Thuin
Sossoie
Solre
Leers
SCALE
0 1 2 3 4 5 10 MILES
Beaumont
Philippeville

Having seen what are the disadvantages under which allied armies operate from divergent bases, let us consider what is to be said on the other side.

Advantage of divergent bases to combined armies.

When Wellington concerted with Blucher at Bry operations against Napoleon on the 16th, he proposed to aid him by advancing against Napoleon's left flank and rear by the Gosselies road. In doing so he would have covered his own line to Ostend.

When Napoleon followed Wellington to Waterloo, he detached Grouchy partly to cover his flank and rear, which were especially exposed, because if the Prussians should advance towards Quatre Bras or Charleroi, they would still cover their own line to Liege.

And, lastly, when Blucher approached Waterloo, he attacked Napoleon in the most fatal direction, being himself on a front which covered from the main French army the line through Wavre to Liege.

Thus the divergence of the bases of the Allied armies enabled them to deliver their blows in the most fatally decisive manner against the enemy's flank and rear; which, had they operated from a common base, such as Antwerp, they could not have done without exposing their own communications.

If, then, allied armies, operating from divergent bases, *can combine*, their operation will be more effective than if they had a common base.* But from the moment that their concert is destroyed by the interposition of an adequate force, the chances are against them.

The reader will appreciate the loyalty of Blucher to his colleague and to the common cause, in advancing to Waterloo notwithstanding that Grouchy was descending perpendicularly on his line of communication with his base.

* The truth of this assertion was illustrated, very soon after the publication of the work, by the victory of Königgratz, where the two Prussian armies, advancing from different sides of the theatre, combined their attack with fatal effect.

CHAPTER VI.

See woodcut on p. 203.

CASE OF DISLODGING AN ARMY BY OPERATING WITH A DETACHMENT AGAINST ITS REAR.—CAMPAIGN IN GEORGIA, 1864.*

IN May, General Sherman commanded the Federal forces assembled at Chattanooga, on the left bank of the Tennessee. He had from 90,000 to 100,000 men.

Federal forces.

Macpherson commanded 23,000 on the Right.
Thomas 45,000 in the Centre.
Schofield 13,000 on the Left.
Garrard's cavalry, 5000.
Stoneman's, M'Cook's } numbers not recorded.

The object was to occupy the enemy's troops in Georgia, and to gain possession of Atlanta.

Confederate forces.

Opposed was General Johnston; at first with 40,000 men, afterwards reinforced to 54,000. His object was to obstruct Sherman as much as possible, and to cover Atlanta to the last moment.

* In the first edition, the operations in Georgia were imperfectly (though not incorrectly) described, for want of detailed information and a good map. General Sherman saw a copy of the work, and, with a frankness remarkable in one so greatly distinguished in high command, caused a copy of his own report of the campaign to be conveyed to the author, along with a letter containing the following passage:—

"A good many of the English commentaries and criticisms err, because it is impossible for them to see why well-established principles of war had to be modified to suit the peculiar geography and forest nature of our country. Thus, I think, if Colonel Hamley were to visit the ground about Dalton and Resaca, he would modify his chapter treating of my dispositions there. Though I divided my force (generally, but by no means always, a violation of a rule of war), Johnston could not have fallen on Macpherson without doing just what I wanted—viz., letting go forts and parapets, and a natural position that might

The whole theatre is generally hilly and wooded. The district between Chattanooga and Dalton is crossed by considerable ridges in the direction of the rivers, penetrated by gaps, in one of which lies the railway from Chattanooga by Dalton, Resaca, Kingston, and Marietta to Atlanta and Macon, with branches from Rome and Decatur.

The nature of the country and communications made the railway especially valuable to both armies.

Sherman held the country nearly as far as Dalton, where Johnston's headquarters were, and before which he was strongly posted.

Sherman's immediate base was Chattanooga. **Bases.**

Johnston was bound to the line from Dalton to Atlanta. **Dalton to Atlanta, 90.**

The Federal general found the position too formidable to be assailed in front. He therefore resolved to turn it.

6th to 11th May.—Leaving one of Thomas's divisions intrenched in the hills opposite Johnston, to guard the line to Chattanooga, and to make feints against the front, he pushed Macpherson by Villanow through a gap in the ridge, supporting him by the rest of Thomas's corps and a body of cavalry, in all between 50,000 and 60,000. This force was to threaten the line between Tilton and Resaca.

Schofield, from the left about Varnells, was, after feeling towards Dalton, to withdraw and follow the flanking movement.

Finding Resaca too strong for an attack, Macpherson took position in the gap he had issued by, to await the assembly of the army.

Johnston, perceiving the formidable nature of the menace against his communications, made good his retreat to Resaca.

11th to 19th May.—Sherman drew his army round Resaca, and threatened to pass between it and Rome. Johnston evacuated Resaca, destroy-

have cost me 20,000 men to have dislodged by a direct attack. Johnston could not make a detachment large enough to endanger Macpherson, who, on the defensive, would have had the woods and range of hills at Snake Creek in his favour, and I had good roads by the rear to reinforce Macpherson in one march."

This refers to a passage in the Comments on this chapter in the first edition, where it was assumed that Johnston's best chance was probably on the 10th May, when, leaving a garrison in his works, he might have sallied and overwhelmed the turning force under Macpherson; and a deduction as to the proper mode of conducting operations of the kind was made, which was unjust to Sherman's generalship. For that commander had actually operated in the way suggested as the best; and the author, in amending the text, has the satisfaction not only of cancelling a wrong, but of quoting, in confirmation of his own views, the practice of so successful a leader.

ing the railway bridge; and Sherman advanced on Kingston and Rome, strengthening Resaca as a depot.

19*th to* 27*th May.*—Johnston retired behind the Etowa. Sherman, to avoid a strong pass at Allatoona, moved his army to the right across the Etowa on Dallas.

27*th May to* 16*th June.*—Sherman, finding Johnston's left on Lost Mountain too strong for attack, worked round by his own left to Allatoona, where he occupied and strengthened the pass, and directed a general attack, which caused Johnston to abandon Lost Mountain, and to concentrate, with his centre, on Kenesaw Mountain, and his flanks thrown back to cover Marietta and the railway.

27*th June.*—Sherman attacked the position, and was repulsed.

1*st to* 10*th July.*—Sherman, having resolved to turn the position, and for that purpose to cast loose from the railway with ten days' supplies in waggons, pushed his right, under Macpherson, down the Sandtown road, towards the Chattahoochee, to a point within three miles of the river and five of the railway. This threat against his rear caused Johnston to evacuate his position and cross the Chattahoochee.

11*th to* 19*th July.*—Johnston, having burnt his bridges, had lost much of his power of offence. Sherman, sending Stoneman's cavalry to cross far up the Chattahoochee and threaten the railways south of Atlanta, caused Macpherson to support the movement by a feint on Turner's Ferry. Meanwhile he seized the passage at Roswell with Garrard's cavalry supported by Schofield's corps, and fortified Allatoona and Marietta. He then drew Macpherson's corps from right to left, crossed on the Confederate right between Roswell and Atlanta, and moved towards the town, his left under Thomas seizing Decatur.

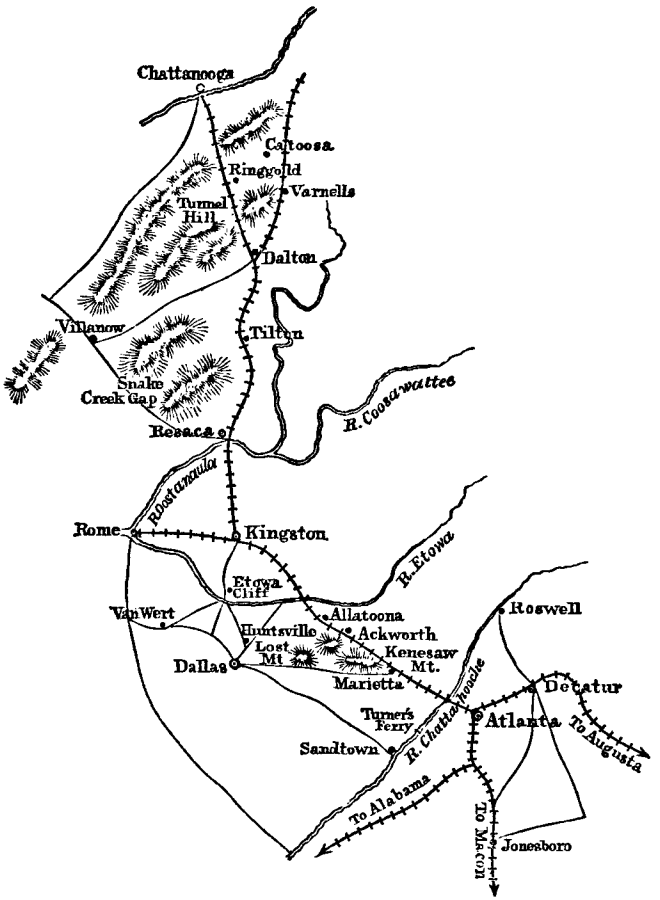
Johnston was replaced by Hood in command of the Confederate army.

22*d July.*—Hood massed his forces on the extreme Federal left, rolled up part of two corps, killed Macpherson, and got into Decatur, but was driven within his lines. Howard succeeded Macpherson.

24*th July to* 30*th August.*—The Federals intrenched around Atlanta on the eastern side of the defences. The cavalry corps of Stoneman and M'Cook were despatched to the southward by a wide circuit to break up the railways. They were surrounded by superior forces, lost 1800 men,

and Stoneman was captured. The Federals, however, were reinforced by 2500 cavalry under General Rousseau.

The place being considered impregnable, and attempts to break in having failed, Sherman left a force intrenched before his bridge of the Chattahoochee, and directed the corps of Schofield, Thomas, and Howard upon Jonesboro'.



1*st September.*—Hood had moved part of his army to Jonesboro', where it was attacked and defeated.

Thereupon he evacuated Atlanta.

COMMENTS.

Except in attacking the Kenesaw Mountain on the 27th June, the character of Sherman's operations was throughout the same. To protect his main line from a counter-attack, he left a force intrenched across it. He then reinforced his flanking wing to a strength sufficient to cope with the whole army of the enemy, and directed it by a circuit off the main line, upon the Confederate rear. In every case the operation was successful, obliging Johnston forthwith to abandon his strongest positions, and to retreat.

The superiority of numbers warranted, therefore, in this case, a separation of the army, and was turned to account in a manner which may form an example of what is the best mode of operating in similar circumstances.

It appears, then, that in certain circumstances, and with great odds, it may be judicious, or indeed inevitable, to separate an army for the sake of dislodging an enemy by threatening his rear. But it is also clear that when a commander, tempted by the promise of a brilliant result, operates in this way, he is at any rate giving so much advantage to his adversary as may consist in the chance of fighting the whole hostile force with a part instead of the whole of his own. And it is evident that, by operating with his entire force on one line, he would deprive the enemy of that chance. Nevertheless, these flanking operations are frequently undertaken. It is useful, then, to consider under what circumstances they are judicious.

If, as in Sherman's case, the enemy is so strongly posted as to render a front attack on him inexpedient, there will be no other course than to detach a force to turn the position. And if the assailant also possesses a strong position on the main line, it will be best to reinforce the flanking wing till it is equal to the whole numbers which the enemy can possibly bring on that side, and order it not to halt till it has attained the point

aimed at; holding, meanwhile, the aforesaid position with the rest of the army. Should the enemy detach a part only of his forces to meet this attack in his flank or rear, he will be beaten. Should he meet it with his whole army, he abandons the position in which his strength lay.

When Wellington advanced from Portugal in 1813, he knew that the French had a strong line behind the Douro, which they might hold against his whole army. But they could only bring to the defence of that line about 35,000 men. Therefore Wellington sent 40,000 men across to the northern bank of the Douro, within the Portuguese frontier, under Graham, who advanced to the Esla, while with the rest of his forces the English commander moved by Salamanca to the southern bank. Graham, crossing the Esla, came on the flank of the French, who thereupon abandoned the line of the Douro, and Wellington assembled his army on the northern bank unmolested. Had he followed Graham's movement with his whole army, he would have left Portugal, with all his depots and his base, exposed to an advance of the enemy.

It appears, then, that this separation is judicious:—

Separation, when judicious.

1st, When the front of a position is unassailable, and a movement against the enemy's flank with the entire army impracticable or unsafe.

2dly, When the roads do not admit of the entire army advancing in effective order.*

Thus it was with great difficulty that a Northern army could advance to the Rappahannock by the line of Centreville-Warrenton, even with the aid of the railway; for the country was so wooded and broken that the troops could rarely move on an extended front, and the difficulties of supply were great and increasing. Consequently the line of march grew so extended that the superiority of numbers was lost. For this reason, if for no other, part of the great hosts assembled on the Potomac were always directed on some other line, such as Fredericksburg or the Shenandoah.

3dly, When the superior army possesses divergent lines of retreat to, and communication with, its own frontiers.

For, as in the case of the allied army of Wellington and Blucher, the

* The above was published in May 1866. In June of that year the Prussian armies invaded Bohemia on a double line, and one main justification alleged by their Staff for the step was, that the entire army could not have advanced in effective order by one set of mountain roads, but would have extended in columns so lengthened that it would have been impossible to form on a front commensurate with its numbers,

risk in case of defeat will be greatly diminished, as compared with that of an army detaching a force from its single line; and the effect will be greater, for the direction of the combined armies must bring one of them on the enemy's flank or rear. It will depend on the relative proportions of the hostile forces whether the promise of decisive success will compensate for the risk of losing the power of concerted action, and being separately defeated.

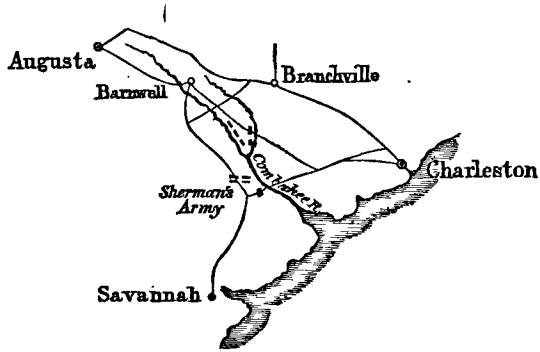
CHAPTER VII.

GENERAL CONCLUSIONS FROM THE FOREGOING EXAMPLES.

THAT the disadvantages of separating the parts of an army, though foreseen, are often incurred, is evident from history. And this may happen from many causes. As at Eckmuhl, a commander ignorant of the exact position of the adversary may, in expectation of an immediate result, make a movement which lays him open to the penalty for dividing his army. In 1859, Louis Napoleon would doubtless have preferred to operate entirely from Genoa, where he possessed the advantage of a fine and fortified harbour, and whither his troops and stores could be conveyed *en masse* by the easy mode of water-transport. But in the mean time the situation of the Sardinian capital, imminently menaced, and covered only by a very weak army, afforded a pressing reason for sending part of the French troops by the Mont Cenis. The junction of the French army was to take place in the great plain between the Bormida and the Scrivia; but till it was effected, the French corps on the two lines were exposed to all the risk of being separately assailed. Risks of separation often incurred.

Another fertile source of separation is the attempt, so frequently made, to cover two distant and divergent objects. Territories, lying apart from the indispensable line, must perhaps be protected, else they would be overrun by the enemy, or, by revolting, would increase the difficulties of the situation. Or two cities far distant from each other may both be important enough to form an object for the enemy, and both equally urgent in demanding protection. Thus when Sherman, advancing from Savannah in 1865, was concentrated behind the Combahee, he threatened equally Augusta and Charleston; and by separating, to defend both, the Con- Causes of this.

federates laid themselves open to a sudden blow dealt against a part of their front. The part to be taken by an army so threatened can scarcely ever be doubtful. It should adopt one point decisively, as its temporary base, and from thence, indirectly, cover the other. Thus the Confederates, if assembled in the fork of the Combahee and its tributary, and based on Augusta by the road through Barnwell, would have been prepared against a direct attack, and the enemy could neither have moved on Augusta or on Charleston without exposing a flank.



Decisive points.

In fact, what has been called "the principle of interior lines," as well as many instances of what are termed "decisive points," are simply a concurrence of circumstances which render it practicable to concentrate an army in opposition to an extended enemy. When an army approaches its object by roads which meet and then again divide, the possession of the point of junction or knot of the roads, by either party, cannot but afford opportunities of menacing at once several points, or roads, which the enemy may desire to cover. The possession of points of this kind—for example, Milan and Mortara in 1849, Gera in 1806, Ivrea in 1800, Charleroi, Quatre Bras, Sombref, in 1815—is of itself an important step in the campaign.

An instance of the great advantage of *possessing several alternatives of action*—distinct from other cases already quoted, because that advantage was used by an army *on the defensive*—is afforded by the military situation in Portugal in 1810-11.

See Map No. 13.

Massena, recoiling from the lines of Torres Vedras, had fallen back to

Santarem. Wellington, following by the roads east of the Monte Junto, found him in a position of great natural strength. Reynier's corps about Santarem was posted on a lofty ridge, its left resting on the Tagus, its front covered by the swamps of the Rio Mayor, and accessible only by a long narrow causeway. Junot's corps was posted on the Alviella from Alcanhete to Pernes and Torres Novas. Ney's corps was in reserve at Thomar, with a division watching the Tagus between Santarem and the Zezere. The French held two bridges over the Zezere. A detachment with cavalry was at Leiria.

The alternatives open to Massena were these:—

1st, He might retreat, either by Leiria or Thomar, to Coimbra, finding a fertile country and strong line of defence on the Mondego.

2d, Crossing the Zezere he might retreat by Belmonte to his fortresses of Almeida and Ciudad Rodrigo.

3d, He might reach the same fortresses by Castello Branco.

These were alternatives for retreat; but he might also take the offensive.

4th, By advancing from Leiria against the western half of the lines of Torres Vedras.

5th, Crossing the Tagus on his left, for which he possessed numerous boats, he might advance on Lisbon by the south bank.

6th, From Castello Branco he could concert operations with Soult in Andalucia, by Alcantara.

7th, Or, by Placentia, with King Joseph, whose army was on the Upper Tagus.

Wellington had 70,000 men against Massena's 50,000. Could he have collected these, he might have attacked Junot, routed him and Ney, and hemmed back Reynier against the Tagus. But he was forced to disperse his forces:—

1st, To watch the south bank of the Tagus and cover his depots opposite Lisbon, and the transports in the river.

2d, To occupy in sufficient force (two divisions) the western half of the lines of Torres Vedras; for Massena, by a march from Leiria, would be within a march of the lines there, and might force and turn them before Wellington could arrive by the eastern side of Monte Junto.

3d, While attacking Junot and Ney, Wellington must leave a force

before Santarem, lest Reynier should advance on the eastern half of the lines.

These diminutions of the force available for attack on an enemy who could speedily concentrate, prevented the enterprise; and Massena, though so inferior in force, maintained his position from November to the following March; and, when he did at last withdraw, gained sufficient start, from the uncertainty in which he kept his antagonist, to effect an organised retreat through a very difficult country.

Such advantages, then, are frequently open both to the general invading and the general defending a country; to recognise and to hold positions so commanding, will often compensate for a numerical inferiority.

Since all strategical successes resolve themselves into the two kinds discussed in this and the preceding Part, it remains to inquire under what circumstances it may be well to choose one mode of operating rather than the other.

Comparison of the advantages of turning the flank,

Whenever an army, which is so confident in its fighting power as to desire to engage the entire concentrated forces of the enemy, possesses the faculty (by reason either of an angular base, or of such circumstances of obstacles as will hereafter be discussed) of striking at its adversary's flank or rear, it enjoys, in that circumstance, an advantage and opportunity which it might vainly seek in manœuvres against the hostile front. By a resolute advance it may even combine the different advantages of forcing the enemy to form front to a flank, and of separating his forces and engaging the parts successively, as will subsequently be seen in the example of Champaubert. At any rate, it will be highly advantageous to engage even his whole force in that situation.

But if an army be inferior in number, it will manifestly be wiser to seek to separate the hostile forces and engage them separately. For in striking at the flank it may compel that concentration which it should be its great aim to prevent; as Napoleon would have done, had he turned Wellington's Right in Belgium.

and breaking the front.

And even if, in the case of an army ready under any circumstances to bring the enemy to action, the option is offered of breaking his front or striking at his flank, the first alternative will generally be the best. Such a choice appears to have been offered to Napoleon in 1809. On the 17th April, when forming his plan, he might have left Davout at Ratisbon,

and have marched with his Centre by Siegenburg to combine with Massena coming from Pfaffenhofen, in order to advance together through Mainburg. He would thus have been on the flank and rear of the Austrian Left Wing, cutting it from its great line of supply by Landshut. But he would thereby have compelled the concentration of the Austrians. Therefore, though his own line to France would have been equally secure through Ulm in this flanking operation, he preferred to break in between the wings, even with all the risk of Davout's perilous flank-march along the river. And as in this case, so in most others, it will be found that to break the front is the readiest method as well as the most decisive. **The latter generally best.**

When the superiority of one army is sufficient, and no more than sufficient, to warrant a detachment against the enemy's rear, the two modes of operation—namely, that of aiming a blow at the communications on the one side, and that of concentrating against a separated force on the other—come into direct opposition; when victory will remain with the general who best appreciates and improves the conditions of the situation.

This seems a suitable part of the work in which to consider the effect that the Electric Telegraph, whether of the ordinary kind, or specially constructed to accompany an army, may be expected to exercise on military operations. So long as opposing armies are concentrated, its influence will be confined chiefly to transmitting immediate intelligence and directions between the headquarters and the communications with the rear, or between the general-in-chief and the commanders of wings, and both parties may be expected to derive from it the same advantages. It is when armies are in presence of each other *on extended fronts* that instant intelligence may affect the result, and chiefly in those cases where concerted action is essential to success, but is rendered uncertain by intervening distance or obstacles. **Effect of the telegraph on military operations.**

The Field Telegraph (which may of course be connected with the permanent telegraph lines of a country at any point) is intended to accompany a force while moving, and several forms have been devised which may be laid almost as fast as troops can march. In the British service two divisions of equipment are proposed: one provided with **Mode of using the field telegraph.**

insulated conducting wire, which is unrolled from a drum as the vehicle that bears it moves onward, and lies along the ground, protected from injury by its casing; and the other with an uninsulated conductor, which, erected more deliberately on poles, in the ordinary manner, is more suitable for permanent lines of communication. Travelling offices are provided to set up along its course, or a temporary station may be formed in any convenient building; and as the supply of telegraphic instruments and of wire may be increased to any extent when the belligerent State puts forth its resources, the most extended operations of a campaign would scarcely be beyond the reach of the field telegraph.

Since a direct line of communication along the front of an army would be constantly exposed to the incursions of the enemy, the telegraph lines between the parts will have some common centre in rear of the whole. When, therefore, a successful descent is made on the enemy's rear, as at Marengo and Ulm, the telegraphic communications may be entirely severed; and the fact that they may thus be lost to one army, while preserved by the other, must be added to the disadvantages already enumerated in the chapter where the condition of an intercepted army was discussed.

When armies are manœuvring on any other than concentrated fronts, the telegraph may exercise influence in two ways:—

Kinds of influence exercised by the telegraph.

1st, It will enable the general to combine in one view intelligence of what is simultaneously taking place in distant parts of his front. The conclusions he will form of how far his own plan is likely to be accomplished, and of what the enemy is seeking to effect, will thus be more likely to be correct than if he received, at intervals, information of a state of affairs which may already, when he learns it, have ceased to exist, or be beyond his power to control. Thus the Austrian official account of the campaign of 1866 states that the following telegram came to Benedek's headquarters, from Josephstadt, about half-past eleven on the 3d July:—

"The 5th Prussian corps appears to be advancing from Gradnitz by Salnei against the right flank of our army. Large columns are passing, some within range of the guns of the fortress, which are firing on them with effect. A patrol of Palffy Hussars has been forced to seek shelter here."

Ample warning was thus given, though not turned to account, of the impending fatal onset of the Crown Prince on the right flank of the Austrians.

2dly, It enables the general to transmit orders for simultaneous action to distant parts of his force, and to impart to the movements of an army on an extended front the decisive and co-operative character of those which are performed under his immediate control.

Influence of telegraphs on defensive measures.

In the case of an army spread on an extensive front to meet an expected invasion, the advantages which railways have been said to confer on the defender will probably be increased by the conjunction of railways and telegraphs. The assailant's advantage has been explained to consist in knowing what his own point of concentration and his own line of operation will be; while the defender, doubtful of these, may be unable at once to meet the attack, or, if it is rapidly followed up, to combine his forces effectually after its direction is apparent. But the advantages which the defender will gain in breaking the railways he abandons, and using for concentration those that connect the parts of his army, will be augmented by the possession of telegraphs, which will enable him more speedily to remedy the effects of his first doubts and hesitations. Wellington and Blucher, in constant communication by telegraph through Brussels, though they might have failed to combine effectually on the front Namur-Nivelles, would have moved with far more assured steps to unite at Waterloo. This disadvantage the assailant may, in future wars, seek to remedy by detaching bodies of cavalry on enterprises against the defender's communications.

Influence of telegraphs on offensive operations.

One of the disadvantages of a general who conducts offensive operations on an extended front is the difficulty of imparting unity, both of time and object, to his movements; and this will in future be diminished. The telegraphic communication between the two Prussian armies invading Bohemia in 1866 was not maintained up to the battle of Königgratz; had it been, and had the situation on both sides been fully appreciated, their joint attack might have been so timed as to obviate the risk of separate defeat which the premature onset of Prince Frederick Charles's army entailed. And in the similar case of allied armies operating from divergent bases, like the English and Prussians in the Waterloo campaign, the chances that they will be able to combine for the blow,

which has been said in those circumstances to be so decisive, will be greatly increased.

Lastly, in the case of attempting to dislodge an enemy by sending a detachment round his rear, the telegraph will both diminish the risk of the movement and increase the chances of gaining its complete results. Sherman appears to have made constant use of it in his flanking operations in Georgia.

One important effect will be felt, on both sides, in the avoidance of hypothetical or conditional orders (always fruitful sources of error), and the correction of those which are misunderstood or fail of being obeyed with sufficient exactness. Had telegraphs existed in 1815, D'Erlon could scarcely have been suffered to remain lost both to Ney and Napoleon, and Bulow's error in delaying to march for Ligny would certainly have been rectified.

On the whole, it appears that telegraphs will diminish, sometimes in a considerable degree, the disadvantage under which a divided force operates against a concentrated force, and that they will enable a general to divide his army, whether for defence or attack, with more confidence than heretofore. But they will not often remedy, in an appreciable degree, the ignorance of what is passing behind an enemy's front, and its consequences. False theories of his intentions will still be formed, and the false movements that spring from them will often be beyond remedy. The errors which led Wellington to expect Napoleon's attack in a different quarter, and to keep a detachment at Hal, and which caused Napoleon *minus* Grouchy to meet the combined armies of his foes, were such as the telegraph would have failed to avert. Generals will know more of what is passing in view of all parts of their front, but not of what takes place beyond.

The reader can proceed to apply to any of the situations described in this work the supposition of the joint effects of railways and telegraphs. The instances will not be found to be numerous where the advantages thus conferred on one side are obvious and important; and there will still be abundant room in all cases for the effectual exercise of sagacity and decision.

PART V.

THE INFLUENCE OF OBSTACLES.

CHAPTER I.

GENERAL TOPOGRAPHY OF A THEATRE OF WAR.

THE first requisite for following military operations is a good map of the theatre. It is not often easy to find one that is at once minute in necessary particulars, and compendious enough to bring the essential features before us at one view. But any good map, however general (sometimes, indeed, the better for being general, as giving the main facts unconfused by secondary particulars), will afford a great deal of important information.

Reading of the map.

For example, North Italy is seen at once to be a basin almost entirely surrounded by mountains. From these great watersheds a multitude of streams pour down to the plain, along the central depression of which the great main drain of the Po, collecting them in its channel, conducts their waters to the sea.

Features of Italy.

Therefore belligerents operating from the east and west, like Austria and France, will find their paths crossed by a multitude of streams running north and south, while a great river traverses the theatre from west to east. North of the Po the mountains leave a wide plain traversed by

many great roads; but south of it the Apennines crowd upon the river, leaving space only for a single great road, which lies in a narrow defile between Piacenza and Voghera. On the seaboard are Genoa, which was the chief base of the French in 1859—a great port, opposite a gap in the mountain-barrier, and giving access to the valley of the Po; and Venice, where the presence of a hostile force would seriously affect the position of an Austrian army on the Mincio—an element which proved to be of great importance in the negotiations of Villafranca.

Features of Spain.

In Spain we see a theatre the very reverse of North Italy in its essential features: for here the land rises from the coast towards the centre, and the line of the watershed traverses the country from the south-west in Andalucia to the north, where it merges in the western extremity of the Pyrenees. From this spinal ridge, ribs of mountain-ranges extend east and west—between these run the great streams thrown off by the watershed, mostly to the westward.

A French army entering Spain would therefore find its path crossed by barriers of mountains and rivers—which, when mastered, would become successive lines of defence against an enemy coming from the south. But they would form obstacles of a different character if an enemy should operate from Portugal, in the direction of their length; and this was a mainly important feature in the Peninsular war.

Of America.

In the theatre of war in America, the great feature was the line of the Alleghanies intersecting the Southern States, and pouring its streams right and left into the Atlantic and the Mississippi. Thus the rivers crossed the path of a Federal army operating from the Potomac in Eastern Virginia, and the mountains lay on its flank—circumstances the significance of which was exemplified at Bull Run.

Nature of obstacles must be appreciated.

If we know, then, the precise nature of the difficulties offered by rivers or mountain-barriers, both when parallel and when perpendicular to the fronts of armies, even this cursory survey of a theatre will supply much matter for consideration respecting the chances of a campaign. The influence of these obstacles, under different conditions, will therefore form the chief subject of subsequent chapters.

More detailed maps and topographical descriptions will afford other important particulars. Respecting North Italy we shall learn from these what are the passes of the mountains into the country—what fortresses

guard them—what are the great roads and railways, and where they cross the principal rivers; that is, in fact, *the relations between the avenues and the obstacles of the theatre of war.*

As to Spain, we shall find that the Pyrenees form a barrier between it and France, forbidding the supply of great armies, except by roads which lie between the extremities of the mountains and the coast on each side; that the great rivers, far from marking the lines of the great roads (which in other countries so frequently lie along the banks), flow in broken rocky channels difficult of access; that the cultivated districts are few and small compared with the extent of the country; that the frontier of Portugal is so rigid as to admit of only two roads by which Lisbon can be reached from Madrid: and we shall then comprehend the situation of the French armies in Spain, how dependent they were on the one great road on each side of the Pyrenees, how disjointed was their front when it faced towards Portugal, how difficult it was to subsist on the resources of the country, and how perilous to draw together the scattered parts of the army, separated by rugged defiles which were held by guerillas. We see also the importance of the fortresses of Badajos and Ciudad Rodrigo, the doors between Spain and Portugal, and Burgos, on the main line back to France. To see and provide for such circumstances imparts vigour and unity of action to a campaign—not to see and provide for them is to carry on war by compromises and makeshifts, and to end it in disaster.

Effects of cultivation on military operations.

In England the country is so generally cultivated, and the arable and pasture lands are so intermixed, that the fields are fenced on every side to keep the cattle from the crops; and it would be difficult to find spaces of any extent where armies would not be restricted to the road while marching, or where they could easily form front for battle. But in large districts of the Continent cattle are kept in stalls, and the crops are not separated by fences, while the chief causeways are thrice the width of our main roads. In such countries armies move on a large front, the columns of infantry and cavalry in the fields in dry weather, the artillery and trains on the roads. Thus Belgium and the east of France are a succession of rolling plains, where the streams and ditches are the only impediments. In other parts of Europe whole districts are devoted to pasture, as in Hungary and parts of Spain, and these great plains are equally free from obstacles. On the other hand, North Italy is highly cultivated, and

scarcely any plains are to be found there. The numerous rivers feed a multitude of canals of irrigation; the rich soil of the fields is too soft for marching on; olive-groves and festoons of vines add to the difficulties of forming on a large front, and troops on the march are for the most part restricted to the raised roads.

Importance of preliminary study of the map.

It is evident that a careful and sagacious reading of the map of the theatre will reveal to a great extent the character of the warfare of which it is to be the scene. Not only may a general plan be resolved on, but the nature of the marches and of the encounters may be foreseen and provided for, and the proportion of the different arms will be adjusted to the country in which they are destined to act. The cavalry, that would have been only an encumbrance in the Apennines or at Rivoli, found fitting fields at Eckmuhl, Borodino, and Ligny. The powerful artillery that was easily transported and manœuvred in Belgium, and which almost crushed the British at Waterloo, would have choked the narrow roads of Spain. Not only the army, but the character and extent of its supplies and equipments, must depend in great degree on the aspect of the country, its resources, fertility, and climate. These are matters to be dealt with by common-sense, joined to experience of the requirements of armies. But without going into minute details of topography and statistics, the map of the theatre will suggest military problems of a purely scientific kind, first in order among which are those discussed in the following chapter.

CHAPTER II.

EFFECT OF THE CONFIGURATION OF BASES AND FRONTIERS.

THE effect of an angular frontier in enabling the army possessing it to operate against the enemy's flank was exemplified in Part III., Chapter V. But the reader may have observed subsequently, in the American campaigns, that the line of the Potomac, and the seaboard, gave the Federals the power of moving an army into Virginia in many different directions, conferring, indeed, greater latitude than Moreau possessed in 1800, but without producing any of the results which follow from obliging an enemy to form front to a flank. He may therefore be disposed to inquire why none of the Federal invasions, directed from various parts of their frontier, had the same effect as Moreau's. By investigating the difference between the two cases, the limit of the influence of a frontier of this kind may be determined.

See Maps No. 3 and No. 8.

Extent of the influence of an angular frontier.

That difference consists in the fact that, whereas the base of the Austrians lay considerably *beyond* the angle from the side of which Moreau operated, the base of the Confederates on the James lay entirely *within* the angle commanded by the Federals. Had some central point in the Black Forest, such as Rothweil, been Kray's base, Moreau's advance from Schaffhausen would have been of no more avail, as a menace to the communications, than if he had advanced from Strasburg. On the other hand, had the Confederates been bound to some point far south of Richmond—such as Augusta—a Federal advance on the line of the James would have forced the enemy either to abandon all that part of the theatre which lies north of the James, or else to give battle on a front parallel to their line of communication with the base. The truth of this was exemplified when

Lee abandoned Richmond. For his aim then was to join Johnston in Carolina; but Grant, advancing along the James, cut him from the south, hemmed him against the mountains, and compelled him to surrender.

Again, when Kray had reached Ulm, Moreau's line from Schaffhausen no longer gave him the power of threatening the Austrian communications, except by the exposure of his own; and that he succeeded in his enterprise against them was due to causes of a different nature.

Therefore we may infer that, if an enemy's base lies within the angle of a frontier, the only advantage which that angular frontier confers on its possessor is to afford a choice of lines by which to operate. Should he advance from several points too distant from each other for perfect concert, he will do so at all the risk which attends a disjointed, as opposed to a coherent, operation. Should he advance from a single point, he will find that the opposing army's front covers its line to its base.

On the other hand, if the hostile base lies far beyond the angle, this kind of frontier will confer all the advantage of forcing the enemy to form front to a flank, *so long as his army is within the angle.* But as soon as he has retreated beyond the extremity of the angular frontier the advantage ceases, or exists only in proportion to the degree of obliquity which the front of each army assumes in relation to its own line of communication.

Advantage of commanding an enemy's coasts.

When a maritime power which commands the sea makes war in a theatre largely bounded by a coast-frontier, it evidently possesses great advantages for the selection of a base; and if the frontier, besides being extensive, be angular, it will almost certainly confer the power of operating against a flank. Thus, when England made war against the French in Spain, the form of the Peninsula gave her the choice of numerous lines by which to operate. It remained to select the most effective.

Example of the Peninsula.

See Map No. 11.

The Pyrenees, affording no great roads, restricted the French to the lines of communication between the mountains and the coast on each side. The main line was that of Bayonne-Vittoria-Burgos-Valladolid-Madrid-Seville. A British army, operating, let us say, from Gibraltar, would merely press back the French along their road to France. But it might easily select another base from which it could force the enemy to form to a flank. By seizing the road from Bayonne, where it passes between the coast and the Pyrenees, it would grasp the throat of the invasion; and the nearer to that point it could operate, the more

effective would be the operation. Thus Sir John Moore, advancing from the north-eastern frontier of Portugal in 1808, struck at Napoleon's communications between the Ebro and the Douro. The movement forced the Emperor to quit the capital; he advanced with greatly superior forces, by the Guadarama, against Moore, who thereupon retreated, not on Portugal, which he could no longer calculate on being permitted to reach, but on the north-west corner of the Peninsula at Corunna. On that corner, then, his operation was based. But he wanted two conditions for success: first, *a secure starting-point*, which that part of the coast did not afford—hence, under great difficulties, he was forced to re-embark; secondly, *a force sufficient to contend with the enemy whom he menaced*—of the indispensability of which condition this case has already been quoted as an example.

As the only fortified posts on the northern coasts were occupied by the French, it remained for Wellington, in subsequent campaigns, to choose another base. Portugal offered one admirably suited to the purpose. It was guarded by a frontier naturally strong; for on the east was a range of mountains, on the north the river Minho and an impracticable hill-country; and it possessed, besides the great harbour of Lisbon, three rivers navigable for a considerable distance in Portugal—namely, the Douro, the Mondego, and the Tagus—by which to supply the army. And whenever Wellington should advance into Spain, the French armies opposing him must necessarily form front to a flank. Hence they were obliged to appropriate an army, called the Army of Portugal, expressly to cover their line from an attack on that side.

In 1812 Wellington advanced against that army, then commanded by Marmont. At that time another French force (Army of the Centre) held Madrid; a third, under Soult, was in Andalucia. The English general defeated Marmont, drove the French eastward from Madrid, and seized the capital. Soult was thus cut off; but, by a long circuit, he regained his communications with the Army of the Centre, and, in conjunction with the defeated army of Marmont, compelled Wellington to retire to Portugal. The substantial result to the English was the liberation of the whole of Spain south of Madrid.

In 1813 Wellington again advanced, and drove the French from the Douro towards the Ebro. But his line back to Portugal was now very

long, and the French, by withdrawing beyond its effective direction, had deprived him of the advantage of attacking their flank. On the other hand, their retreat, compromising the garrisons of the northern coast at Santander, &c., had left the ports there free. Therefore Wellington, letting go his hold of Portugal, threw his left forward beyond the sources of the Ebro, and basing himself anew on the northern coast, whither his fleet from the Tagus was transferred, came down upon the flank of the French line between the Ebro and Bayonne. To meet the attack, the enemy at Vittoria gave battle on a front in part parallel to that line,—defeated, they only regained the Pyrenees by the road of Pampeluna, with the loss of all their artillery and baggage.

Thus the chances which the configuration of a base may open, in all stages of a campaign, afford most important matter for the consideration of a government and a general.

When armies are in presence of each other at the outset, their frontier lines will be coincident; and thus the angular frontier of one party will be an angular frontier of another kind for the other—that is to say, whereas the angle of the one frontier includes the territory occupied by the enemy, which, borrowing a term from fortification, may be called a *Re-entering Angle,* the other army is operating in an angle which pushes itself within the enemy's frontier, and may be called a *Salient Angle.* Let us consider the effects of these positions respectively.

Different kinds of angular frontiers considered.

* The present Austrian frontier in Italy is bounded by the Mincio throughout the length of that river, and by the Po downwards from their confluence. If Austria were at war with Italy, the Italians, on the one side, would enclose Venetia within their re-entering frontier. On the other, the Austrians would be in a salient angle. And it is evident that if they were concentrated between the Mincio and the Adige, they would threaten Italy south of the Po on the one side, or Lombardy on the other, and be within striking distance of both; so that, should the Italian

* The above paragraph was published in May 1866. In the summer of that year the situation described actually existed, though it was the Italian army which took the offensive, the Austrians being prevented by the war in Bohemia from throwing their weight into Venetia. The Austrians having fortified Rovigo on the Adige, possessed the means of entering Italy either on the side of the Duchies or on that of Lombardy. The Italian armies separated, that under Cialdini operating on the lower Po, while the other, crossing the Mincio, was attacked by the concentrated Austrian army and defeated.

army concentrate on one side of the angle, the enemy might invade its territory on the other. Thus, supposing the Austrians capable of crossing either the Po or the Mincio at pleasure, the Italians, if they wished to cover all their territory, must divide. But, by dividing, they would be giving the Austrians all the advantage of a concentrated against a separated force; and if the armies at the outset were equal, the parts of the one would be liable to be defeated successively by the mass of the other.

Thus, while the advantages of a re-entering frontier are of the kind discussed in Part III., inasmuch as it favours an operation against a flank, those of the salient are of the kind discussed in Part IV., because it tends to separate the parts of the enemy's front.

But to end after saying so much would be to leave this question of frontiers in a very unsatisfactory state, and the case must be further investigated.

Importance of possessing the issues.

It is evident that, for the one party or the other to derive the kind of advantage peculiar to its position in its full extent, it must possess the means of passing the frontier on both sides of the angle. Now the Austrians * have two fortresses on the Mincio, Peschiera and Mantua, giving them access to Lombardy, and excluding the Italians from Venetia. But the Po is not bridged below the confluence of the Mincio, nor could a bridge easily be thrown, therefore the Italian army might safely assemble in Lombardy to await the attack, assured of being able to arrive on the lower Po in time to confront the enemy, should he attempt to pass there. But if the Austrians possessed a great flotilla, or flying bridges, on the lower Po, by which to throw their army easily across, the Italians would be at a great disadvantage.

On the other hand, reverting to the case of Kray and Moreau, the French could pass the Rhine at Strasburg and Brisach at one side of the angle, and at Basle on the other—Kray was therefore reduced to the defensive, since he could not cross either side of the enemy's frontier without exposing his flank to the other; and when the passage of Schaffhausen was seized, the situation was altogether against him.

Thus we find that another element is necessary for the decision of the question—namely, *Which party possesses the issues of the frontier, or can*

* The passages referring to the period when Austria held Venetia are retained because the great territorial changes of 1866 do not render them the less apt as examples.

most readily seize them? After ascertaining this, we can proceed with some confidence to decide on the best plan of operation.

If the army whose frontier is re-entering possesses, or can seize, the issues of that side of the frontier which is parallel to the enemy's line of communication with his base, it should throw all its weight on that side in assuming the offensive; for even if the issues on the other side of the angle are open to the enemy, he cannot advance by them while his communications are thus threatened.

See Map No. 5.

For example, in the second part of the campaign of 1796 in Italy, the Austrian army was on the defensive, behind the angle of the Po opposite Valenza, with its left towards Piacenza. Napoleon, whose object was to drive them from the Milanese, could cross at Casale, and advance by the Sesia on the one side of the angle, or could strike at the Austrian communications by crossing the Po below the Ticino, on the other. Though in following this latter course he was operating on a front parallel to his own line of communication with France, which was through Turin, yet, remembering that the successful assumption of the offensive would secure him against counter-attack, he moved down the Po beyond the Austrian front, and crossed at Piacenza, whereupon the Austrians in all haste retreated over the Adda.

In 1859 the situation was the same. The Austrians, as before, were in the angle of the Po, extending towards Piacenza, the Sardinians were on the lower Sesia, the French faced the Austrians on the Po from Valenza to Voghera. But the issues of the Po below Valenza were in the hands of the Austrians; therefore the Allied army chose to operate by the other side of the angle, and, crossing at Casale, advanced by the Sesia and Ticino. Thus no strategical advantage was gained. The Austrians changed front, covering their line to the Mincio, and their retreat was caused by the *tactical* success gained at Magenta.

The question, then, of *who holds the issues* over the obstacles, is of paramount importance. The angular frontier may be a line of mountains like that of Bohemia, or a river having a bend like the Rhine at Basle, or two rivers like the Ticino and Po, or a line of fortresses on one or both sides. In any case, what we mean by holding the issues is, possessing the means of certainly and securely passing the obstacle, either by fortified bridges, or fortresses or detachments commanding the passes of mountains.

MAP Nº II

Santander
Bayonne
Coruna
Santona
Bilboa
S. Sebastian
Pyrences
Vitoria
Pampeluna
Burgos
R. Minho
R. Esla
R. Ebro
CATALONIA
Valladolid
R. Douro
Salamanca
R. Douro
R. Tormes
R. Agueda
Almeida
Ciudad Rodrigo
Guadarama Mts
R. Mondego
Madrid
Toledo
Almaraz
Alcantara
R. Tagus
Lisbon
Badajos
Elvas
Merida
Medellin
Almendralejos
Hinojosa
Guadiana
R. Guadalquivir
ANDALUCIA
Seville
Gibraltar

For the sake of clearness of illustration, let us take, in preference to a mere diagram, the case of the Austrian frontier in Italy as it was in 1849 and 1859—that is, the line of the Ticino and Po. The Italian army would have a re-entering angle, the Austrian a salient angle, from which to operate.

The example of 1796 proves, that if the Italian army can cross at Piacenza the move is decisive. If, therefore, Italy possessed a fortress on the north bank of the Po, opposite Piacenza, it would be impossible for Austria, with equal forces, to keep her frontier on the Ticino.

And if the issues over the Ticino were in the power of the Austrians, still the result would be the same.

And if the issues were not protected by fortifications on either side, but open to either party that could seize them, the successful assumption of the offensive by the Italians on the side of Piacenza would be decisive.

But in all these cases it is presumed that the Austrians await the attack. Therefore, in addition to the power of holding or gaining the issues, *the assumption of the offensive* is necessary to secure the advantage of the re-entering frontier.

On the Austrian side, the disadvantage of a purely defensive attitude being apparent, whatever advantage the salient can confer must also depend on the assumption of the offensive.

The danger of dividing an army to cover territory on both sides of the angle, is exemplified by the distribution of Chzarnowsky's force in 1849. One of his brigades was posted towards Piacenza to guard against the passage of the Po. On the advance of the Austrians across the Ticino this brigade was beyond the possibility of aiding Chzarnowsky, and was lost to him.—(Page 66.)

Supposing the Austrians to possess the same frontier, with the power of passing the Ticino at Pavia and the Po at Piacenza, they would threaten Turin on the one side, and the Duchies and the Peninsula on the other. The separation of the Italian army in such a case, or the abandonment of one-half of the territory and resources of the kingdom to the enemy, would seem almost inevitable. The best course in such a case would be for the Italians to take up a position near the angle, at Casale and Valenza, when they would threaten the flank of the enemy's advance on either line; and the power of the Austrians to persist in an offensive

movement must depend on their ability, either to defeat the Italians in battle; or to guard their own flank at Piacenza on the one side, or opposite to Casale on the other.

See woodcut, Chap. IV. Pt. V.

Again, supposing Prussia, allied with Saxony, at war with Austria. An Austrian army within the angle of the Bohemian frontier, and possessing the issues of it, would equally threaten Saxony and Silesia—and it is improbable that either Saxony or Prussia would consent to leave its territories uncovered—while the line of the Elbe and the rocky country on its banks would preclude the possibility of concentrating near the angle. Hence division would be inevitable should the Austrians be in a position to assume the offensive.

On the other hand, were the Austrians on the defensive, they might speedily be forced to quit the angle*—as was proved in 1757, when an Austrian corps at Reichenberg was forced to retreat hastily to Prague at the approach of a Prussian corps from Silesia towards Turnau.

General conclusions.

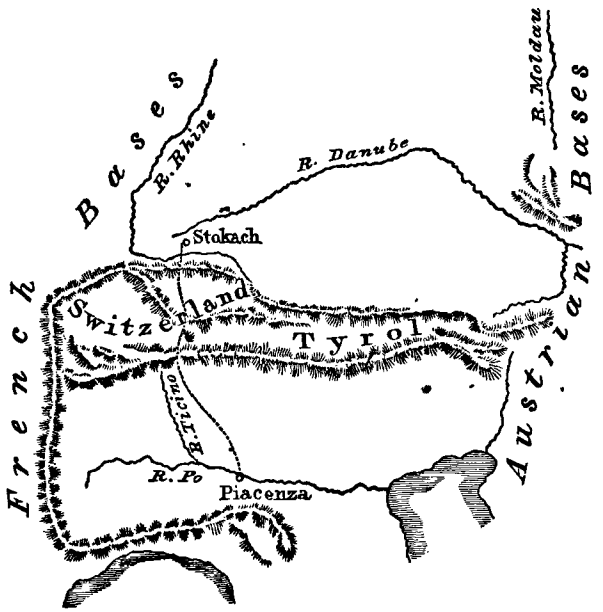
Generally then, and on the whole, the advantages of either position are conditional on the assumption of the offensive: the chances will be against either party that suffers the other to take the initiative: and the advantages will be greatest on the side of the army operating from the salient, provided the enemy be obliged to separate, under penalty of abandoning territory; otherwise the salient will confer no strategical advantage, unless circumstances are very favourable to the defence of the flank of the army during an offensive movement.

Case of a double re-entering angle.

It may happen that the frontier line abuts into the territory occupied by the enemy from the *middle* of a base—thus giving a re-entering angle on two sides. For instance, the mountains of Switzerland and the Tyrol connect transversely the bases of Austrian and French armies in the two theatres of Germany and Italy. The advantage of the possession of Switzerland by the French, against the Austrian armies within the angle on both sides, was fully exemplified in 1800, when Moreau from Schaffhausen first drove back Kray, and then detached a force over the St Gothard to turn the line of the Ticino and aid Napoleon in enveloping

* All this was verified very shortly after it was written. The Austrians were expected to assume the offensive, and the Prussian armies divided, covering Berlin and Silesia. But the Austrians remained posted between the Iser and upper Elbe, when the successes and advance of the enemy on each flank caused them to withdraw and concentrate before Königgratz.

Melas at Marengo. And if an enemy, pushing the Austrians back in Italy, should penetrate into the territory beyond the Adige, the Tyrol would afford them the means of issuing by way of Verona on that adversary's flank and rear, and hemming him back against the shores of the Adriatic. Such a frontier confers the double advantage of concentrating against a divided enemy, and of obliging him to form front to a flank. This case has been quoted by Jomini as an example of a *salient* base—the reader must judge whether it does not more correctly belong to the class in which it is placed here. The configuration is manifestly widely



different from that of the salient Austrian frontiers in Bohemia and Italy, and the advantages to be aimed at are different also.

Importance of an extensive base.

The lateral extent of a base, without reference to its configuration, is also an important matter. It affects the army that operates from it very considerably, whether the operation be offensive or defensive. For a very long base evidently supplies in some degree the place of a re-entering base. If an Austrian army were on the Neckar, a French army might move on its rear almost as easily from Mayence as from Wurzburg. And if the Austrian army were dependent on a very short base, it would be

easily cut from it. But how difficult it was to cut it from its very long base, was shown by the perilous dispositions to which Napoleon was obliged to resort for the interception of Mack. And, indeed, the whole of the campaigns quoted, on the Danube, prove how great an advantage was the extent of the bases to their possessors.

In the American war, the extent of the Federal base gave the Northern armies a great advantage. Not only had they a variety of lines of invasion to select from, but when defeated in Virginia, it was almost hopeless to attempt to intercept them. In 1862, Jackson's bold flanking movement cut Pope from the Upper Potomac, but could not prevent him from reaching Alexandria—and, if cut from Alexandria, he could still have retreated on Acquia and the flotilla. And in 1863, when Grant was baffled on the line of the Rapidan, he shifted his base, as he moved round Lee's right, successively to the Pamunkey, and to the James.

The extent of a base is, then, a very important consideration in deliberating on the expediency of adopting it; and the advantages it offers must be very marked in order to compensate for dependence on a single harbour, or narrow strip of frontier, where the army will be restricted to a single line, and that line precarious in proportion to its length.

Therefore, when a maritime power is based at first on a single harbour, as soon as its army, in advancing, masters a road which branches to another harbour distant from the first, that second harbour should be occupied and made part of the base.

And in all cases the depots should extend behind the flanks of the army as widely as is consistent with their due protection by natural obstacles, by fortresses, or by the front of the army.

CHAPTER III.

OF OBSTACLES WHICH DIRECTLY TRAVERSE THE PATH BY WHICH AN ARMY ADVANCES.

Conditions of a military obstacle.

AN obstacle—in order to be such in a military sense—must present advantages for defence, and must also prevent the approaching columns from deploying while passing it. A single defile of any kind, a causeway on a swamp, or a bridge, leading to commanding ground, or a mountain-pass, fulfils these conditions. For an enemy must advance on a narrow front against troops and artillery advantageously posted, and, in the two first cases, deployed. In the case of a mountain-pass the defenders may not be able to deploy any more than the assailants, and their advantage will consist in being screened from the fire from below; while the advancing troops, besides being imperfectly covered, will, even should they arrive at the crest, be greatly fatigued and scattered by the difficulties of the ascent.

But the disadvantage, in such cases, is obvious; and the assailant will at once decide whether to attack or turn the position. It is when the obstacle is to a certain extent *continuous, and includes in its range several possibilities of action,* that it presents a strategical problem. The only natural impediments that fulfil this as well as the former conditions, are Rivers and Ranges of Mountains.

Its effect in limiting the number of roads.

In one respect the influence of both these obstacles is the same in kind though not in degree. The expense of throwing bridges over a wide stream, or of making roads over a high range of hills, causes the roads on each side to converge as they approach it, and to merge in a

few highways, by which alone can the communications of a great army be maintained. One of their effects, then, is to lessen the number of avenues through a theatre of war. But in many other respects they differ.

Defence of a long line of mountains difficult and dangerous.

Although the supply of a large army, operating beyond a mountain-range, can only be maintained by the highroads that cross the range, yet in all mountain districts there are numerous paths by which troops unattended by cumbrous trains, and carrying supplies for a few days on the men's persons and on pack animals, can pass over the crests. But if the defensive army should spread itself to occupy all of these, the communications between the parts of its front must be broken and circuitous. An assailant mastering any of the passes would descend in the rear of the defenders of other points, who, necessarily very sensitive about their communications, could never hold their ground with confidence. Moreover, an army spread in this way, in barren roadless districts, on inhospitable summits, must suffer unusual privations. Evidently a prolonged defence conducted on such a system would be very costly in men and material, and of very uncertain advantage.

Therefore, whenever the theatre of war is in part mountainous, like Southern Germany or North Italy, though bodies of troops may manœuvre in the hills, to protect a flank or to threaten an adversary's, yet the main action of the campaign will be in the districts which are practicable for great armies. And what is now the subject of discussion is not mountain warfare, such as is carried on against hill tribes, but the nature of the obstacle interposed by a long narrow range of mountains.

Defence of a few chief passes equally ineffectual.

If, then, the defensive army, seeing the danger and futility of occupying all the passes, concentrates in the chief of them, the enemy would the more easily break through the front at unguarded points and descend upon the rear; and the fate of a body of troops attacked in front, and dependent on a single intercepted issue in rear, would generally be the same as that of the Austrians at the Monte Legino.

It is more usual, therefore, and more consonant with prudence, to hold the principal passes—that is to say, those which lie most directly in the line of operation, and have the best communications with the rear—with advanced-guards, keeping the mass of the army disposable at points in

rear where many valleys and passes unite; thus securing the retreat of the advanced posts, supporting them if necessary, and opposing with a formidable force the first hostile troops that cross.

Passage to be effected if possible by stratagem, not by force,

If a long line be held by the defender, the assailant, keeping his adversaries dispersed by feints on many points, will generally prefer to pass at an unguarded issue rather than force a passage, certain of seeing the whole system of defence rapidly fall to pieces when the front is broken. Thus, Frederick of Prussia wished, in 1757, to pass from Saxony to Bohemia, the object being Prague (see woodcut, Chap. IV. Pt. V.)—and the best and most direct road was that of Pirna and Aussig along the Elbe. But it was guarded by strong Austrian detachments; therefore a column from Chemnitz advanced first towards Egra, the station of an Austrian corps (a second being on the Eger at Budyn), and after feigning to attack, rapidly countermarched on Auerbach, and passed over the ridge to Commotau and Linay. The detachments in the Elbe valley, thus threatened in rear, retreated in haste, leaving the road open to the king, whose columns united on the Eger as rapidly as the hostile body from Egra came to Budyn—and the defensive line of the mountains was lost to the Austrians.

At the same time, on the side of the Riesengebirge an Austrian corps disputed the advance of a Prussian column at Reichenberg; but another Prussian column meanwhile passed at Trautenau, and the hostile corps thereupon retreated in haste. The mountain-chains did not prevent the Prussian columns from concentrating before Prague.

and not at several distant points.

But the manner in which Frederick's forces passed the mountains offered a great opportunity to an able adversary. They were separated by great distances, and their extended front manifestly gave the enemy the advantage of superior power of concentration. Therefore Napoleon, in such a case, while making feints on many points to turn or distract the defenders, passed his main body, in 1800, at one point. And this is doubtless the right way of conducting such an operation. The crests of the chain once mastered, it is impossible for the defenders to know what is passing behind the mountains. Any of the assailant's columns may be the head of the main army. The defenders, therefore, must either fall back and concentrate beyond the mountains, leaving the passage free; or if they block all the issues, must expose some part of their line to be

overwhelmed, and the communications of the rest threatened. Therefore a general, whose object is to pass a mountain-range defended by the enemy, should make feints at many points; but the main body should pass either in one column, or in columns so near each other, and so well connected, as to unite readily.

Continued defence of a mountain-chain ought to be turned to the advantage of the assailant.

On the whole it may be said, that if the crests of a mountain-range be held by an enemy entirely on the defensive, the strategical advantage will be with the assailant, who ought either to turn or break the enemy's front. The advantage of a mountain frontier to the defender will be,—

Its real uses as a defensive obstacle.

1st, *that of retarding the enemy's advance*, thus giving time to concentrate on the threatened line—an advantage which may be increased by holding the passes with detachments to augment the difficulties of advancing; and, 2dly, *that of limiting the enemy to a few difficult lines of supply after he has passed it.* Unless the mountain-range be of great depth, it will generally be better to hold it only with detachments, and to assemble the army at some point where it will oblige the enemy issuing from the mountains to form front to a flank. Defeat in such a case, driving him back into a single difficult road choked with trains and supplies, or, perhaps, driving him off the line altogether, cannot but be disastrous.

Case of Torres Vedras exceptional.

It might at first sight appear that the well-known case of the lines of Torres Vedras, held by Wellington entirely on the defensive, is contradictory of what has just been affirmed. But there were many circumstances to make this a case specially favourable to the defender. 1st, The lines could not be turned, for they rested on one side on the Tagus, on the other on the sea. 2d, They had been artificially fortified, so as to be absolutely impregnable for many miles of their length; and all the passes were defended with strong works armed with heavy artillery. 3d, The Tagus, the sea, and the roads in rear, enabled the defenders to be easily supplied. 4th, A mountain-chain perpendicular to the line of defence limited the enemy's attack to one side of that chain, since to have divided his forces would have been to offer one wing to the concentrated army of Wellington; and thus, though the line of defence from the Tagus to the sea was 29 miles, yet only a front of 14 miles could be at one time threatened, and of that length scarcely a half was assailable. Thus the case is reduced from that of *a continuous line of defence*, to that of *an exceptionally strong position.*

See Map No. 13.

A river offers as an obstacle conditions different from these. The defenders can deploy, so as to bring an overwhelming convergent fire, both of small-arms and artillery, to bear on the columns crossing the bridge, and these, as they successively pass the obstacle, must still deploy under fire. The detachments of the defensive army along the course of the stream will generally have good communications with each other; for as the banks of a river, especially one that is navigable, are generally fertile and populous, good roads often follow its course on both banks. Hence the defenders need not, as in mountain-passes, fear the unexpected appearance of an enemy on their flanks or rear.

Rivers considered as obstacles.

The defence of rivers safer than that of mountains,

On the other hand, as it is easier to throw bridges in a rich populous territory than to make roads over rugged and desolate mountains, the good passages over all but the largest rivers will generally be far more numerous than over a corresponding extent of mountain-range. Thus, there are six passages on practicable roads over the Ticino in 36 miles, from Turbigo to Pavia; while in the whole extent of the western face of the Italian Alps there is but one good road (fit to supply such an army as that of Napoleon III. in 1859), that of the Mont Cenis. And the more numerous the practicable avenues, the greater the difficulties of the defence; for either some must be left unguarded, or the army must be spread on an extended front.

but the passages more numerous.

When an army approaches a river defended by the enemy, its first object will be to drive all the hostile troops then in its front to the further side, and to extend a cordon of posts and vedettes along the stream within the limits of possible operations. For, having possession of one bank, it can manœuvre unknown to the enemy; and as the enemy's movements will also be screened, it will be better (instead of forming a theory of his doings, which will very likely be false) to follow a sound plan—that is, one which will enable the army to cross with least risk, and at the same time with the most effective strategical result, whether by turning the flank or breaking the front of the defensive line.

Use of the river to screen the assailant's movements.

There are two features of the case of special significance—namely, that a river is generally winding, and that the higher bank is sometimes on one side, sometimes on the other. The object of an assailant will be to pass part of his troops at some point where he possesses the commanding bank, for he can thus, with comparative impunity, drive the defenders

Possession of the higher bank at an inward bend very advantageous for crossing,

from the other shore, and bring his forces, and materials for passing, undiscovered to the spot. And if at that place the river also winds inward, indenting his front, he will, by disposing his troops round the bend, command and enclose the angle of the other bank.

See woodcut, Chap. IV. Pt. V.

For instance, in the campaign of 1813, Napoleon wished to pass the Elbe near the village of Priesnitz. The conditions were favourable, for the French bank commanded the other, and the bend of the river there indented the French front. Three hundred men were thrown over in the night, and established themselves on the further side. They were attacked, in the morning, by superior forces, with artillery; but the French, bringing 100 guns to bear from their own side, forced the enemy to retreat. During the following night nearly 3000 men crossed, and a work was constructed capable of holding two divisions; whereupon the enemy retired altogether.

and may insure the passage of the whole army in face of the enemy.

The conditions may be so favourable as to enable large masses to pass even in face of an assembled army. In 1809, Napoleon, after entering Vienna, and guarding all the bridges of the Danube up to Passau, wished to cross and attack the army of the Archduke Charles, then opposite Vienna, on the left bank. First, the Emperor seized the large island of Lobau, and connected it with the right bank by a long bridge. Then he accumulated on the island the means of crossing, together with a force of more than 20,000 men. The arm of the river is 120 yards wide, and makes a favourable bend; and by seizing the two villages of Aspern and Essling a space would be enclosed and secured capable of holding a considerable force. On the 20th May bridges were thrown, two divisions crossed, and Aspern and Essling were seized. The Austrians, who had assembled on a height twelve miles up the river, came on in line of battle, and a desperate struggle ensued, chiefly for the possession of the villages. But the reinforcements to the French from the right bank came too slowly to maintain the battle; and the part of the army that had crossed—numbering, when first attacked, 30,000, afterwards, 60,000, against 90,000 Austrians—was compelled to repass the branch of the stream to the isle of Lobau.

See woodcut, page 236.

Some rivers indefensible.

When the most important passages on the main line of operation present conditions specially favourable to the assailant, it will be difficult and hazardous to oppose the passage. So important is the circumstance

of the hither bank commanding the further, that the Austrian army drawn up behind the Mincio, in 1859, to await the French and Sardinians, quitted its position and crossed the river to seek its adversaries; "for," said Giulay, the Austrian general, "the enemy, whom it is impossible to observe from the left bank, can mask his movements and bring all his forces suddenly on any point before our troops can be warned and concentrated." And he had a precedent to justify his opinion, for in 1796, the Austrians being on the defensive from Peschiera to Mantua, Napoleon broke their front by crossing at Valeggio (see woodcut, page 28). Yet the Mincio possessed otherwise great advantages for defence, being a short line, secure on the flanks, and having two issues over it secured by Austrian fortresses.

It may be assumed, then, that when the assailant's bank decidedly commands the other throughout its length, or at the points where the roads forming the line of operation cross, the river is unsuitable for a defensive line.

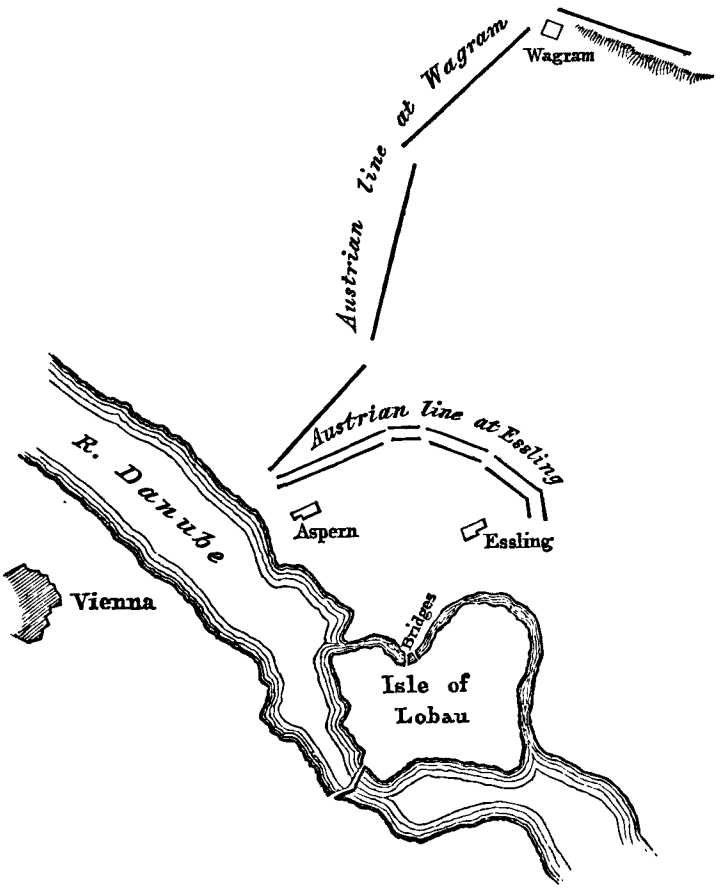
The lower bank still defensible if it offers strong points.

But it must be observed that the mere command of one bank over the other will not be promptly effectual unless the opposing troops are unable to obtain shelter from the assailant's fire. It will naturally often happen that villages or towns are situated on one or both sides of a bridge. In this case, even if the assailant's bank has a moderate command, the buildings on the other side may, for a time, be defensible. At the battle of La Rothière, in 1814, the French right rested on the bridge of Dienville, on the Aube—and the Austrian sought to turn that flank by sending a corps along the other bank. The Austrian bank commanded the other by about 30 feet, rising abruptly to a plateau less than 50 yards from the bridge, which was 95 yards long and 5 yards wide. But at 20 or 30 yards from its extremity on the French side was a substantial church, proof against field-artillery, backed and flanked by the houses of the place. This was occupied so successfully that the Austrians were unable to pass the bridge throughout the battle, or even to drive over the river a French detachment on the left bank.

See Map No. 14.

When the defender sees that the passage cannot be opposed, his usual course will be to take a position in the neighbourhood of the bridge; and the assailant, after passing, cannot manœuvre to turn this position, for by so doing he would uncover the bridge, the sole link in that part of his line

of operation. He must therefore make a direct attack on the position, which will almost certainly be on commanding ground. After his repulse at Essling, Napoleon accumulated on the island of Lobau such ample means of passage, and so strengthened his communication with the Vienna side of the river, that it was in vain to attempt to oppose his



landing; the Austrian army therefore took post 6 miles off, on the heights of Wagram, its right stretching towards the Danube. Napoleon, after passing, formed his columns of attack, and was victorious in the battle.

Passage in presence of a

In 1862, Burnside threw the Federal army on the right bank of the Rappahannock, at Fredericksburg, almost without opposition, covered by

his powerful artillery. Lee observed the passage from his position on the opposite heights, and received the Federals, when they advanced to attack him, with so destructive a fire that they were driven in rout over the river. concentrated enemy hazardous.

If, therefore, circumstances are so favourable as to enable an army to pass a river in presence of the enemy, it must generally advance afterwards to attack that enemy in a strong position. But, in the great majority of cases, circumstances are unfavourable to an open passage. An army, however superior, seeking to force its way over a bridge, against an enemy posted on the higher bank, would certainly experience heavy loss. Thus, in 1810, Craufurd with the Light Division was driven over the Coa by a greatly superior force under Ney; but when the French attempted to pass the bridge, the British troops, lining the high bank, destroyed the head of every column, till the unavailing carnage caused the French to desist. And if the banks were of equal command, still the task would be too formidable for an equal army; for the only point at which an attacking column could advance being known—namely, the bridge—provision could always be made for bringing an overwhelming fire to bear on it. And if buildings, woods, or dykes, near the bridge, afford a shelter for the defender's infantry, the passage, in face of their fire, will be still more impracticable; indeed, such advantages will, as at Dienville, frequently balance the superiority conferred by the commanding bank. It may be inferred, therefore, that the points where a passage can be forced are comparatively few: and we may draw, for future use, the conclusion, that, *in the majority of cases, to attempt to pass an unfordable river, at a known point, in presence of a prepared enemy, demands a great superiority of force*—especially of artillery.

For this reason commanders generally seek to gain a footing on the opposite bank by manœuvring. Stratagem usually employed.

Having obtained command of the whole or a large portion of one bank, the assailant will show the heads of his columns, and make preparations as if to cross, at many points; while the real bridge will be constructed, or seized, and the first troops thrown across, elsewhere. Unless the defender's bank confers a very extensive and commanding view, he will be doubtful which column will make the real attempt—all must therefore be opposed; meanwhile, covered by the high or wooded banks, the assailant's troops

will be moving towards the real point. In general, a bridge of some kind, fixed or flying, must be thrown; and it will be a manifest gain to possess some creek or tributary stream where the materials of the bridge may be prepared unseen, and floated to the point of passage. If time allows, the means for throwing great numbers across at once may be prepared. In his second passage of the Danube, Napoleon placed 70,000 men, with artillery and cavalry, on the further bank in a single night. In 1704 the French had a flying bridge on the Rhine (that is, a bridge or raft passing from bank to bank by means of an anchorage up the stream), by which 500 infantry and 140 cavalry crossed at each trip. But, in all cases, success will in great measure depend on the ability of the assailant to augment his force on the opposite bank *faster* than the defender can bring troops to that point from other parts of the river, and from the reserves.

Necessity for multiplying the means of passage.

First troops pass at a weakly-guarded point.

Although it is essential to an advance of the army after passing, that the assailant should possess the bridge of a great road *on* the line of operation, yet it is not necessary that the first troops should pass at a great road. On the contrary, if secrecy is an object, a point of passage will be more likely to be found unguarded elsewhere. All that is essential for the passage of the first detachment is, that the ground on both banks should admit of the manœuvring of troops of all arms. And it will be a great advantage to find, unguarded or weakly guarded, on the opposite bank, some easily defensible point, such as a village, a church, farm-buildings, or a small wood. For as the necessary preliminary to throwing a bridge is to establish a party on the other bank, so some defensible point will enable the first troops to hold their ground, and to protect the construction of the bridge, or the completion of other modes of sending the rest of the troops across, such as the passage by boats or rafts. The seizure of the Portuguese seminary on the further bank of the Douro, by Wellington's advanced-guard, is a well-known example. Even when a permanent bridge is mastered, it will be necessary to throw other bridges at convenient spots near it, so as to concentrate on the other bank faster than the enemy; and throughout the operation feints should be persisted in at other points, to confuse and deceive the opposing general.

Advantage of seizing a defensible point on the opposite shore.

First troops that pass aid

A force, then, being thrown across sufficient to deal with any that the defender can assemble at that point, it may advance along the bank

and assail in flank or rear the defenders of some important neighbouring passage, at the same time that another column makes a direct attack from the other bank on the same bridge. This is the usual method of gaining a footing—and it may be executed either between the extremities of the enemy's line, or beyond one extremity—that is to say, either by breaking his front or turning his flank. The expediency of preferring either of these methods to the other must depend in great measure on the dispositions of the defender. For he must conduct the defence in one of two ways: either he must guard only the passages on the direct line of operation—in which case his front, too compact to be broken, may be turned; or he will guard all the passages by which the assailant can possibly seek to pass—in which case his front, thus dangerously extended, should be broken.

In the attack on the main passage.

EXAMPLES OF PASSING A RIVER ON THE FRONT OF THE DEFENSIVE LINE.—MOREAU'S PASSAGES OF THE RHINE.

In 1796 it was arranged that the passage of the Rhine (mentioned at page 157) should take place a little above Kehl—the fortifications of that place forbidding a direct passage.

The river Ill runs nearly parallel to the Rhine past Strasbourg. A canal unites it to the small branch of the Rhine, called the Bras Mabile.

The materials for the passage were to be collected in Strasbourg, and to be taken by the canal to the Bras Mabile, where the attacking force was to embark.

Use of a tributary stream.

On the opposite bank the river was watched by the Suabian troops in the camp of Wilstett, the works of Kehl, and along the course of the Rhine for several miles on each side, 7500 men in all, of which about half were near enough to oppose the passage. The Austrians had about 9000 men between the Rench and Murg, and about 4000 extending from above Kehl to Brisach.

Wilstett to Kehl, 5.

All being ready, a false attack was made on the 20th June on the Austrian camp at Mannheim.

Feint to deceive the enemy.

On the same day the troops for the first embarkation quitted the neighbourhood of Mannheim for Strasbourg. The French right wing from the

Upper Rhine also closed on Strasbourg. All the troops were to arrive near there on the 23d June.

Strasbourg to Gambsheim, 13.

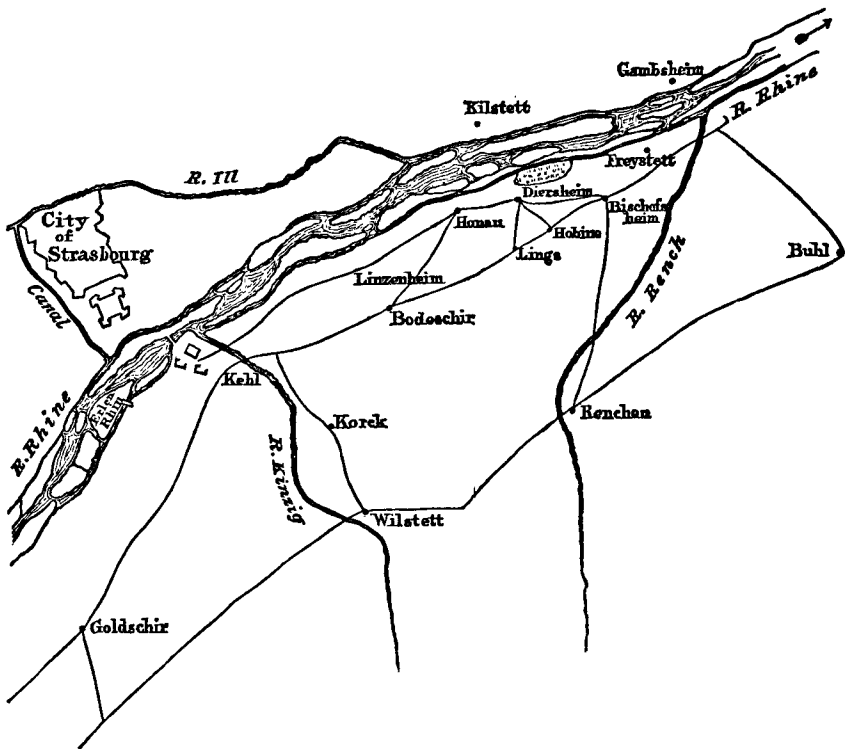
16,000 French, for the main attack, were assembled in Strasbourg.

12,000 were to make a secondary passage at Gambsheim.

Between these places, three false attacks were to be made to confuse and distract the Austrians.

The width of the main branch of the Rhine is from 200 to 300 yards

See also Map No. 7.



near Kehl. The numerous islands diminishing the total breadth of the stream—the woody banks, and the dykes along the shores, forming at once lines of defence for the first troops that might cross—were all circumstances in favour of the passage.

False attacks at the moment

24th June.—Before midnight of the 23d all the boats for transport were brought down the canal into the Bras Mabile, and the first detach-

ment, 2500, embarked at half-past one. The guns at the points of false attacks then opened. — of commencing the enterprise.

The flotilla ascended the Bras Mabile, and got into the main stream; the main body landed on the wooded islands nearest Kehl—a detachment of 1500 men seized the bridge connecting the Erlen-Rhin with the Kehl shore—another attacked and carried the batteries on the Erlen-Rhin—a fourth attacked the two small islands on the stream; the boats, having landed all these, returned for fresh troops.

The Austrians, from their camp at Wilstett, marched to this point in time to oppose the troops first landed, who maintained themselves behind the dykes. — Use of a defensible point.

A flying bridge from the French shore to the Erlen-Rhin was established by six in the morning. Infantry passed incessantly there, and by boats. — Assailants concentrate fastest.

Sufficient troops having passed, they moved on Kehl. A detachment attacked the Austrian works, aided by heavy artillery from the Strasbourg bank. The enemy were driven out, on the Buhl road, and had no time to destroy the bridges of the Kinzig. — First troops turn to attack a main passage.

The bridge of boats opposite Kehl was commenced at six in the evening and finished next morning. The communications were thereby assured, and cavalry and artillery passed. — Main passage assured, army passes.

25*th June.*—Moreau reconnoitred the enemy.

26*th June.*—The French pushed out on Goldschir, Korck, and Wilstett. The Austrians, who had been driven back on Wilstett on the 24th, retired on Buhl. — Wilstett to Renchen, 6.

Had Moreau brought Laborde's division from the Upper Rhine, where it was now useless, he might have assembled at Wilstett, on the 26th, 45,000 men—enough to guard the passages, and to crush all the troops between him and the Murg.

The Austrians after the passage were scattered thus:—

4000 on the Rench.
8000 at Buhl.
2000 on the Murg.

Dispersion of the defensive forces.

About 4000, separated from the rest, moved up the river towards Friburg.

The rest of the Austrian army of the Upper Rhine was between Mannheim and the Murg.

PASSAGE OF 1797.

Strasbourg to Kilstett, 9.

After the Archduke had driven Moreau over the Rhine in the preceding year, the Austrians besieged and took the works of Kehl, and greatly strengthened them. The Bras Mabile was now dry, the canal useless—therefore the passage could not be at Kehl.

Between Diersheim and the river is a small wood—the dykes there were favourable for defence—and separated from the wood by a small fordable arm of the river, was a large island. Above Kilstett the Ill runs into the Rhine, and would convey to the spot the requisite transport. It was resolved, therefore, to pass at Diersheim.

Bodeschir to Diersheim, 4.

The Austrians were now in much greater force than in the preceding year, having, in the camp of Bodeschir, and between Kehl and Bischofsheim, about 20,000 men.

The troops of the French Centre were assembled on various pretexts about Kilstett on the 19th. The divisions, from right and left, were to arrive during the following night and day.

Use of the tributary stream.

Forty boats, each for 70 men, a flat boat for guns, and twelve great boats from Strasbourg, were to pass down the Ill to embark the first detachment, which was to land principally on the island opposite the wood of Diersheim, a smaller force at Freystett, and a third between Freystett and Diersheim.

Two false attacks were to be made near Kehl, a third lower down.

20*th April.*—The boats were obstructed by a sandbank at the mouth of the Ill, and delayed till 5 o'clock in the morning. Meanwhile the false attacks had opened and alarmed the Austrians. Their batteries, sweeping the river, obliged all the first troops to land on the island; 300 Austrians were driven from it, and the advanced-guard attacked Diersheim. The French took the village, and, centring on it, extended to Honau on the one side, back to the Rhine on the other, on a front of 3000 yards.

Use of a defensible point.

Defenders concentrate fastest, but

At 11 o'clock, the Austrians from Bodeschir, 4000, formed line from Freystett to Honau.

At 3 o'clock the French established their flying bridge at Gambsheim, which could take only 25 cavalry, or 1 gun and waggon, at each trip. fail to drive back the assailants.

The French had then in line about 8000 men—the Austrians 11,000, with a very superior cavalry and artillery. The Austrians attacked Diersheim and failed. The French took Honau.

The flying bridge was rendered useless by the enemy's fire; but a bridge of boats, begun at 6 P.M., was finished at midnight. In the night, an infantry division, a cavalry brigade, and 12 guns crossed.

21st April.—Austrians, superior in force, attacked Diersheim and Honau, but failed.

The French were now reinforced fastest, and at 2 o'clock Moreau attacked with superior forces. He directed his principal column between Lings and Hobine, his right on Linzenheim, his left on Freystett. The Austrians were routed, and the French advanced thus :— Assailants strongest at point of attack.

Centre, up the valley of the Kinzig, beyond Wilstett.
Right, on Korck and Kehl.
Left, on Bischofsheim, with its advanced-guard on the Rench.

Concentric advance from the river—main passage gained.

22d April.—French advance resumed.

Centre, up the Kinzig.
Right, up the Rhine valley.
Left, forced the Rench.

Assailants continue to push the defenders apart.

The Austrian Right from Mannheim marched for the Murg. Moreau hastened to anticipate it; but an armistice between the two countries ended the campaign.

COMMENTS.

The communications of the assailant, after he has passed on the centre of the defensive line, being thus narrowed to a point, are more than usually precarious at the point of passage; but an army being fairly interposed between the parts of an enemy's front, will generally, in this as in the cases discussed before, be secured from counter-attack by the anxiety of the hostile forces to reunite before taking the offensive. But as the enemy will concentrate twice as fast upon the centre as upon one flank, the necessity for prompt and vigorous action on the part of the

assailant, if he would derive all the advantages from the situation which it offers, is even more stringent after passing a river than in any other case. Moreau's tardiness in advancing after the passage in 1796, gave the Archduke time to concentrate his forces, to make his dispositions, and to effect his retreat on Ulm. Had the French struck out with vigour, pushing the Austrian left through the forest, and rolling Latour downward through the valley, the Austrians might have been cut altogether from the Danube, and their wings permanently sundered.

A river frequently affords an opportunity of breaking a defender's front.

The apparent defensibility of a river or mountain-chain frequently offers inducements to the defensive army to attempt to guard a longer line than its numbers can adequately occupy; and in such a case a great opportunity is offered to a skilful assailant, who, inducing the enemy by dexterous feints to maintain or even increase the extent of his front, while his own concentration is concealed by the obstacle, should effect the passage on the centre, or between the centre and a flank of the hostile line, and should then seek, by vigorous attacks on one side, and the employment of a containing force on the other, to secure all the advantages which have been shown in Part IV. to exist in the situation.

EXAMPLES OF PASSING A RIVER ON THE FLANK OF THE DEFENSIVE ARMY.—PASSAGE OF THE GAVE DE PAU.

See woodcut, page 245.

In 1814, Soult held the Gave de Pau against Wellington. Above Orthez the river spread wide with flat banks. The bridge of Orthez was difficult to force, having a tower in the centre, the gateway of which was built up. The houses on both sides were occupied by the French, and the river there was deep and full of pointed rocks.

Five miles below Orthez was the broken bridge of Berenx—from whence a narrow defile led up to the main road on the right bank.

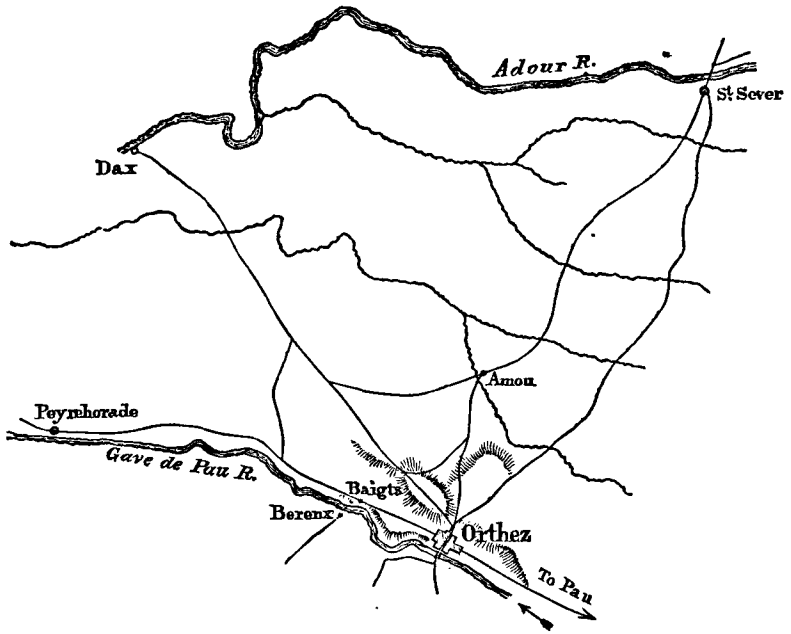
Extent of the French line of defence.

Soult designed to fall in force on the head of the first column that should cross. His line extended from near Baigts on the right, to above Orthez on the left, where, as the river was less defensible, he had placed strong bodies of troops.

Soult had 40,000 troops, of which 3000 were cavalry, and 40 guns.

Wellington had 37,000, of which 4000 were cavalry, and 48 guns.

Of the seven English infantry divisions, four were massed opposite Orthez, with 5 regiments of cavalry and 18 guns.



An infantry division, with a brigade of cavalry in front of the broken bridge of Berenx.

Orthez to Berenx, 5.

Two divisions of infantry and a division of cavalry under Beresford in front of Peyrehorade.

Orthez to Peyrehorade, 16.

Beresford crossed the Gave by a pontoon-bridge and fords, and advanced with the main part of his force on the Pau road, throwing a detachment to his left to threaten Soult's communications with Dax, where he had a magazine.

Turning force passes,

Simultaneously a pontoon-bridge was commenced at Berenx. Beresford, halting for the night near Baigts, covered the construction of the bridge. Communications were thus established between the Centre and Left.

and covers the passage of the main body.

Soult did not receive intelligence of Beresford's movements till he was near Baigts. By that time two divisions drawn from the right were approaching the bridge of Berenx, and that which had before been posted

there was about to cross. Thus five of the seven English divisions were massed opposite Soult's right, astride the river.

Defenders take position in rear.

Soult now hesitated whether to fall upon Beresford, and the column crossing at Berenx, or to take a defensive position in rear. He finally decided on the latter course. Doubtless he was swayed partly by the strength of that position, but powerfully also by the circumstance that he could not know for certain the proportion of troops at each point. If he withdrew too many troops from left to right, the English right passing above Orthez might strike at his rear; if he attacked the English left with insufficient numbers, he might suffer losses to no purpose, and lose the Dax road. The screen of the river, veiling in some degree the assailant's movements, told against the defender.

In taking his new position he pivoted on Orthez with his left, and swung his centre and right backward from the river in front of the Dax road. Wellington's divisions, when all had passed to the right bank, attacked the front of the position, dislodging the enemy by main force; and towards the close of the action, the English right, passing above Orthez, turned the French left, and accelerated the retreat.

See Map No. 12, also No. 5.

PASSAGE OF THE TICINO, 1859.

Preliminary operations.

In the middle of May the Austrians had their right towards the Sesia, near Vercelli, where they had destroyed the bridge, extending along that river to its confluence with the Po. Thence their line stretched along the Po (less than 300 yards wide in this part of its course), watching the principal points of passage as far as Belgiojoso, numerous bridges having been thrown over the Ticino below Pavia to render the communications easy. The left of the army, the 9th corps, was south of the Po in the defile of Stradella.

The French divisions also extended along the Po from Valenza to Casteggio, watching the passages, with the division on the right thrown back to guard the issue of the defile. The Sardinians were massed on the left about Casale.

The French Emperor might aim (like his great predecessor in 1796) at Piacenza, operating by his right—might cross directly from his centre at Valenza, and the other passages between that and the Ticino—or

crossing by the passage he held at Casale, might prefer to force the Ticino rather than the Po.

The Emperor took the third course. He placed the Sardinian army between Casale and Vercelli, and threw it across the Sesia. This might be preliminary to a passage of the Po opposite the French centre, therefore the Austrian line fronted as before.

Demonstrations were made on the French right as if for an advance on Piacenza, and then a movement from right to left was begun behind the screen of the river. The 3d French corps (Canrobert) was withdrawn by rail from beyond the Scrivia to behind the Sesia, where it crossed and joined the Sardinians. This force was destined to cover the assembly of the army on the line Vercelli-Novara-Milan. The remaining corps moved along the roads bordering the Po. Demonstrations were made along the river by troops left for that purpose, as if to prepare for a passage; and when the 1st corps, last of all, quitted its position near Voghera, it broke up the roads and destroyed the bridges behind it to prevent pursuit, or a counter-advance by the south bank.

Feint towards Piacenza.

Vercelli to Novara, 14.

1st June.—The French corps were passing from Vercelli towards the Ticino screened by Canrobert and the Sardinians, who had driven back the divisions forming the extreme right of the Austrian line to Robbio.

The Austrian 2d line (three corps) was drawn on to the arc Robbio-Vespolate-Vigevano, thus fronting the enemy and becoming the 1st line.

Two other corps were drawn from the Po and directed on the Ticino at Beregardo.

Buffalora to Pavia, 27.

Part of the 1st corps was between Milan and San Martino, covering the passage there.

9th corps between Pavia and Piacenza.

Novara to Turbigo and Trecate, 7.

2d June.—French movements for the passage of the Ticino—the object being to reach Milan by a flank march round the Austrians.

1st division of the 2d corps to Trecate, observing the issue of the Ticino at San Martino, and thus covering the march of a division of the Guard directed on Turbigo, to force the passage there and cover the establishment of a bridge. Five batteries accompanied the bridge equipage. The division passed and occupied Turbigo.

Advanced-guard of turning force crosses,

3d June.—The division at Trecate followed, by Galliate, the movement on Turbigo, and reached Robechetto.

followed by the rest.

Trecate to S. Martino, 3¼.

The other division of the 2d corps advanced to San Martino. The Austrians in the work covering the railway bridge retired, blowing up two arches imperfectly. Then the French division rejoined its corps at Turbigo, being replaced by another division of the Guard.

Canrobert between Vercelli and Robbio.
Sardinians moving from Novara on Galliate for Turbigo.
The rest of the French about Novara.

The Ticino here is as wide, or nearly so, as the Thames at Richmond—quite unfordable—and much more rapid.

Banks of the river quite low, especially the left, and very woody at a short distance from the shore, concealing movements of troops.

The Ticino had ceased to be an obstacle further than that the French must cross it at San Martino by a single damaged bridge. The real impediment lay beyond. Standing on the bank at the foot of the railway bridge, the spectator sees before him low flat meadows, terminated three-quarters of a mile off by a huge mound spreading in a wide semicircle. From the bridge of San Martino three roads diverge, piercing this mound at different points; one to the left, to Buffalora—that in the centre, raised 15 feet above the level, to Ponte di Magenta—the railway road, 300 yards from it, similarly raised—and from a lower point on the river runs a fourth road to Ponte Vecchio, crossing the mound at 1200 yards from the railway. This mound is the retaining wall of a large canal, deep and rapid, 30 yards wide, running between steep bushy banks 30 feet deep. The problem was to file over the bridge of San Martino and attack the four bridges of the canal guarded by the Austrians, aided by the three divisions from Turbigo under M'Mahon, who were already beyond the obstacle. And as the Austrians held the passages of the Lower Ticino, and might attack by either bank, it was necessary to keep a force about Novara to cover the communications with Turin.

Austrian Movements.—Giulay's design was to carry his army from the right to the left bank, and attack the Allied force that might have crossed. To this end his troops on the 2d had been massed at the two points of passage, Vigevano and opposite Beregardo. He trusted to the bridge-head of San Martino to delay the French till he should have his army assembled across the road to Milan. An emissary from the Emperor of Austria,

arriving at this critical moment with instructions, suspended the movement, which was delayed for several hours.

4th June.—The 2d and 7th Austrian corps, covered by the 3d, had crossed at Vigevano—their leading brigades were near the bridges of the canal, from Robecco to Ponte di Magenta. The remainder of these corps were 5 to 8 miles distant. A division of the first corps held Buffalora; another at Cuggiono opposed M'Mahon.

The 5th Austrian corps from Beregardo was at Falla-Vecchio, 12 miles off. The 8th corps from Beregardo had been directed on Milan, and was now at Binasco, 17 miles off.

Allied Movements.—The division of the Guard crossed at San Martino and covered the repair of the bridge.

The 3d and 4th corps were put in motion from Novara for San Martino —the 1st was to follow.

The Sardinians from Galliate to follow M'Mahon.

In face of the difficulties of forcing the bridges of the canal, it was Louis Napoleon's design only to threaten them with the division of the Guard, till M'Mahon's advance should have caused the defenders to turn their attention to him; then the Guard was to assault, and the attacks on the two banks would support each other.

The Guard was all on the left bank of the river at half-past 11.

M'Mahon was to leave Turbigo at 10 o'clock. He had 7 miles to march, and might be expected to reach Buffalora about noon.

The approach of M'Mahon was immediately reported to the Austrian commander-in-chief. Nevertheless, the first reinforcements from the Austrian rear did not arrive on the field till half-past 4 in the evening.

M'Mahon's divisions were directed on Buffalora and Marcallo. His right had already approached Buffalora, and his foremost troops were engaged, when he found an Austrian force in the space between his divisions. He recalled the leading troops, deployed his own corps across the space, and once more pushed forward, with the Voltigeurs in second line. **Turning force moves upon the main passage.**

But the fire of his advanced-guard had been the signal for the Emperor to launch his troops at the bridges of the canal. Much hard fighting ensued, and heavy loss. At Ponte Vecchio the Austrians were driven over the bridge, but blew it up in retiring. **The front attack is precipitated.**

At the railway bridge they were also driven over; and the French passing there turned along the further bank and aided in the attack of Ponte di Magenta, which was also carried.

Many repulses, however, had been suffered before so much success was achieved; for the attack had been precipitated by the first discharges from M'Mahon's troops, which, occupied in their deployment, caused no diversion at the bridges.

Turning force aids in attack on the main passage.

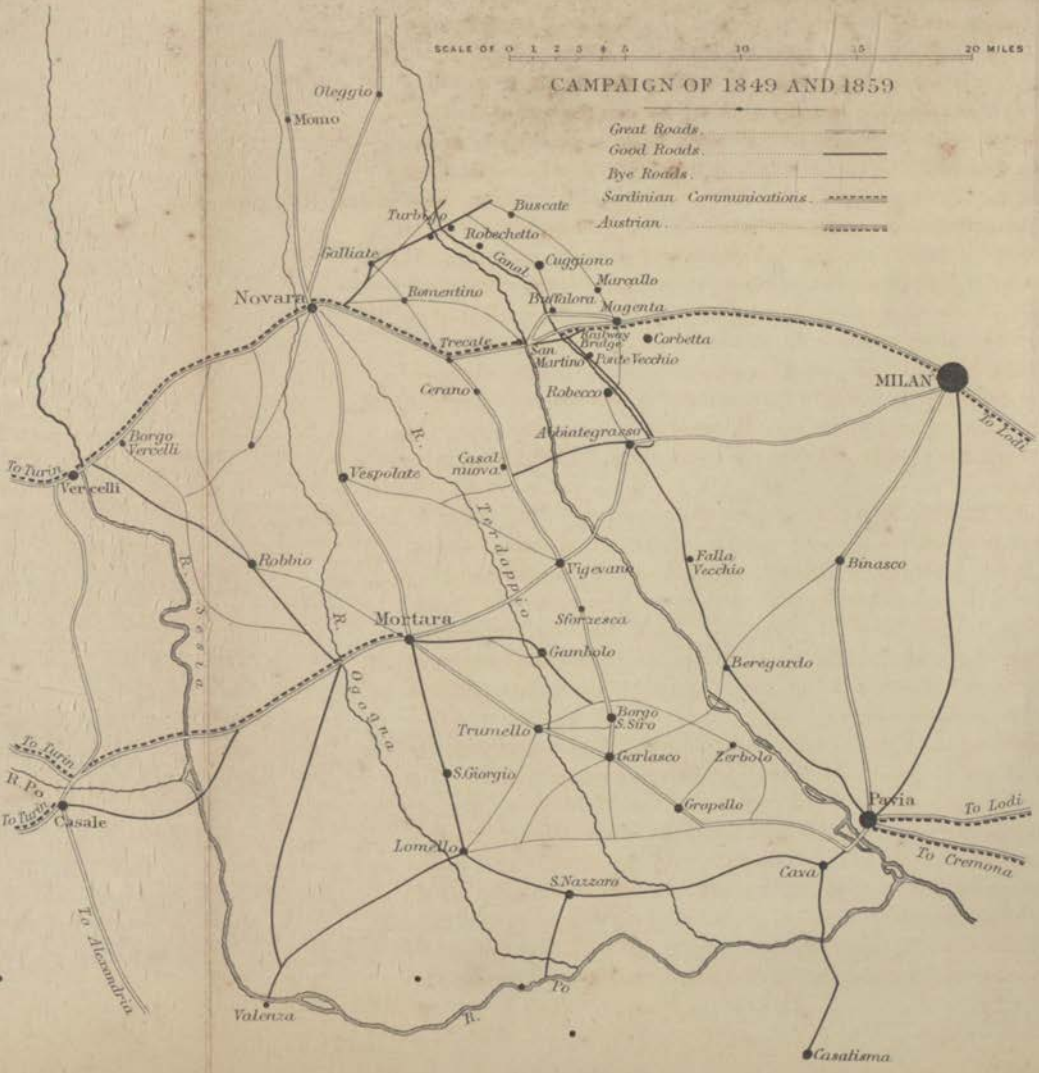
At length, M'Mahon's preparations being complete, he assailed the village of Buffalora. Taken in flank there, the Austrians abandoned the bridge, falling back to a line in rear—the French passed at Buffalora—and the connection between the separate parts of the army was restored.

The remainder of the action was a struggle on the part of the Austrians to make head against M'Mahon on the one side, and on the other to drive the French from the bridges. Brigades arriving from the rear were sent against them by both banks of the canal, principally the west side, and with partial success. On the other hand, troops from the 3d and 4th French corps now began to arrive at the contested points, after crossing from San Martino. Finally, at the close of the battle the French held the bridges down to Ponte Vecchio—the Austrians that of Robecco.

COMMENTS.

In all the foregoing cases the principle is apparent of throwing a force on the opposite bank, at an undefended or unexpected point, to co-operate in clearing a passage on the main line of operation. In neither of the examples of turning a flank is the whole army thrown off the direct line of operation for the sake of passing unopposed, but the advance of the turning force is used to cover or aid the main passage elsewhere.

The difference between the passage of the Gave and that of the Ticino is, that Soult, being restricted to the right bank, could only attack Beresford's force, and had not the option of attacking the remainder of the army: whereas the Austrians, possessing all the lower course of the river from Vigevano to Pavia, could operate by either bank, and the French were therefore detained astride the river.


SCALE OF 0 1 2 3 4 5 10 15 20 MILES
CAMPAIGN OF 1849 AND 1859
Great Roads.
Good Roads.
Bye Roads.
Sardinian Communications.
Austrian.
Oleggio
Momo
Turbigo
Buscate
Robechetto
Galliate
Canal
Cuggiono
Marcallo
Novara
Romentino
Boffalora
Magenta
Trecate
Railway Bridge
Corbetta
San Martino
Ponte Vecchio
MILAN
To Lodi
Cerano
Robecco
Abbiategrasso
Borgo Vercelli
To Turin
Vercelli
Vespolate
Casal nuovo
R. Terdoppio
Robbio
R. Sesia
Vigevano
Falla Vecchio
Binasco
Mortara
Sforzesca
Gambolo
Beregardo
R. Ogogna
Borgo S. Siro
Trumello
Garlasco
Zerbolo
S. Giorgio
To Turin
R. Po
To Turin
Casale
Grepello
Pavia
To Lodi
To Cremona
Lomello
S. Nazzaro
Cava
To Alexandria
Po
R.
Valenza
Casalisma

Turning force not liable to be separated from main body,

It is evident that if a force were detached off the main line to make a circuit round the enemy's flank in a part of the theatre where no considerable obstacle existed, it would be in imminent danger of being cut off, and an opportunity would be offered to the enemy of interposing between it and the main body. But when, in making the circuit, it crosses a river, this risk is in great measure obviated, because the part of the river between its point of passage and the main body is an obstacle to the enemy. The kind of disaster to which it is liable is to be forced back by a superior force upon the river. Thus, had the Austrian army been more concentrated, a part might have held the bridges while a force superior to M'Mahon's attacked him and drove him back on Turbigo. If attacked on a front perpendicular to the general course of the river, it will generally be able to recross without serious losses—for a detachment of troops with artillery, crossing in advance of the rest, could in most cases line the further bank and protect the passage; and the risk would generally be limited to the losses in the action, and those which must generally be incurred in retiring over a river in presence of a superior force. In fact, the point of passage will form *a pivot* for the operation of the turning force.

even if separately defeated.

Real peril lies in the exposure of outward flank.

But it is evident that a turning force which advances along the bank with one flank on the river, exposes the other flank to a direct attack. Thus Soult, pivoting on Amou, might have come perpendicularly on Beresford's left and rolled him back on the river where there was no passage; and Giulay from the Milan road might have directly assailed M'Mahon's outward (left) flank, and driven him back on the canal and river between Buffalora and Turbigo. This kind of risk is exemplified in the two following instances.

Though it has no special relation to this branch of the subject, the nature of the movement on Novara, in 1859, should be studied. The reader, already familiar with the very similar case of 1849, will have no difficulty in perceiving the risk incurred by the Allies. Had they moved from the Sesia on Mortara and Lomello, and thence on Vigevano and Pavia, they would have perfectly covered both lines to Turin by Casale and Vercelli; and the restoration of the bridge of Valenza behind them would have given the means of passing the Po, and would have materially strengthened their line of operation. Such an operation, in accordance with

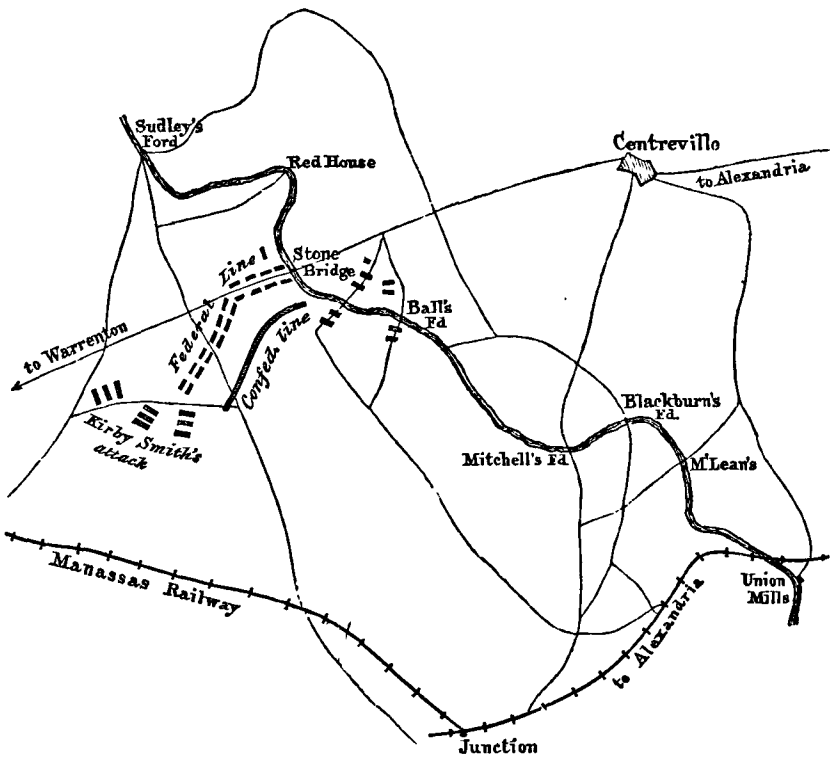
the circumstances of the case, would have given the army firm grounds from which to manœuvre for the passage of the Ticino, with better chances of obtaining a decisive strategical success, and with none of the risk of fatal disaster incurred by the flank march.

Examples of the risk incurred by a turning force.

PASSAGE OF BULL RUN.

Extent of the defensive line.

From Union Mills, on the Alexandria Railway, to Stone Bridge, which is on the highroad from Alexandria to Warrenton, through Centreville, there are six passages over the stream. The Confederate army was dis-



tributed along this space, 7 miles in extent, on the 17th July—a brigade being posted at or near each point of passage, and two in reserve.

The Federal army had advanced on that day from Alexandria to Centreville.

18*th July.*—The Federals attempted to cross at Blackburn's and Mitchell's Fords, but were repulsed. Direct attack repulsed.

They thereupon paused to reconnoitre the stream in order to turn the left of the Confederates, and discovered the road leading on Sudley's Ford. Centreville to Blackburn's Ford, 2.

21*st July.*—A Federal division advanced towards Mitchell's Ford—another on the Stone Bridge—a third was directed on Sudley's Ford—the Reserve remained at Centreville. Centreville to Stone Bridge, 3.

Two of the Confederate brigades of the Reserve were in rear of the right and right centre of their line. Jackson's brigade arriving the preceding night, was posted in rear of Mitchell's Ford. Bee's brigade was in rear of Ball's Ford.

The advanced-guard of the Federal troops passed at Sudley's without opposition, but were met by part of the Confederate brigade at Stone Bridge, detached to confront them. Pressing on, they approached Red House, where the rear of the right Federal column sought to pass. It was opposed at first by Bee's reserve; but eventually the right column of the Federals formed line from the Stone Bridge to 1½ mile from the river on the Confederate side of the stream. Turning force passes, and descends the bank. Is opposed in front.

Jackson's brigade, and afterwards one from the right, arrived in support of the Confederate line.

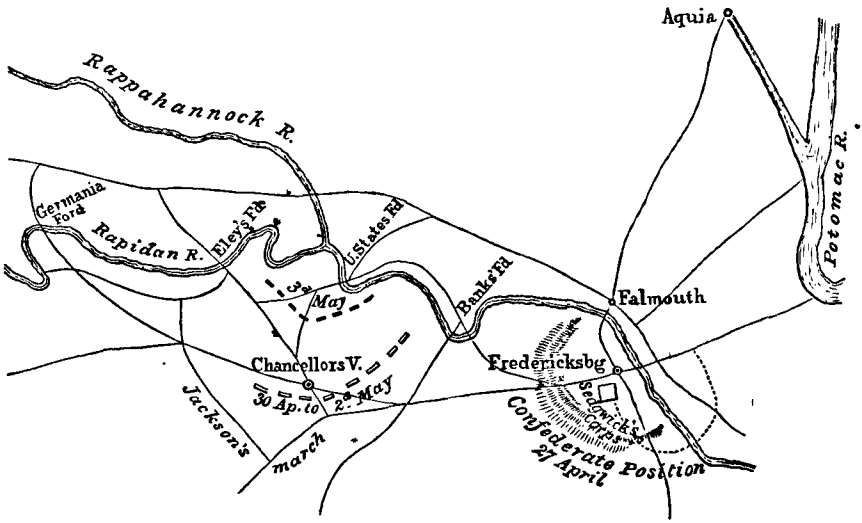
At this time Beauregard is said to have given an order for a counter-attack, by the three brigades forming his right, on Centreville, threatening the Federal line of retreat—and the brigade at M'Lean's Ford advanced; but the order was not executed.

Supported by reinforcements from the right, including the last brigade of the reserve, the Confederates maintained the battle till Kirby Smith's brigades of Johnson's force arrived near the field by the railway. Quitting the train, they fell on the flank and rear of the Federals, who broke and fled over Bull Run. The Confederate brigades at M'Lean's Ford and Union Mills, advancing upon Centreville, menaced the reserve there and the line of retreat, and increased the disorder of the flight. Turning force attacked on its outward flank.

PASSAGE OF THE RAPPAHANNOCK AND RAPIDAN.

Falmouth to Aquia, 12.

27*th April.*—Hooker, encamped opposite Lee at Fredericksburg, based on Aquia, and aiming at Richmond, broke up his camp. His right wing, consisting of the corps of Meade, Howard, and Slocum, moved up the Rappahannock to cross above the junction of the streams and turn the Confederate left.



Falmouth to Germanna, 22.

The corps of Sickles, Reynolds, and Sedgwick, under Sedgwick, were to cross at the same time below Fredericksburg, and detain Lee from the true point by menacing his front.

Turning force passes,

28*th and* 29*th April.*—The right wing having passed the Rappahannock, crossed the Rapidan almost unopposed—Howard and Slocum at Germanna, Meade at Ely's Ford—all moving on Chancellorsville.

Sedgwick's corps crossed below Fredericksburg.

and gains other fords.

30*th April.*—Couch's corps from the reserve crossed at Banks's Ford, Sickles from Falmouth at United States Ford, both on Chancellorsville.

1*st May.*—Hooker formed his line and intrenched it: Howard on the right or outward flank, then Slocum and Couch in the centre, and Meade next the river—Sickles in reserve.

2*d May.*—Lee, aware of the movement against his left, sent Jackson by the Spotsylvania road to meet the attack. Jackson, by a road through the woods, moved past and round the Federal right. Defenders attack the exposed flank.

Hooker sent Sickles to reinforce the right.

Jackson, attacking the right wing in flank and rear, broke and routed it, and drove it back on the river. Fredericksburg to Chancellorsville, 12.

Reynolds's corps, from Falmouth, joined Hooker by United States Ford.

3*d May.*—Lee attacked the angle and left face of the Federal line. Hooker was driven entirely back on the river, his right below Eley's Ford, his left below United States Ford.

Sedgwick attacked the heights on the right bank at Fredericksburg, carried them, and pushed along the Richmond road.

4*th May.*—Lee detached troops against Sedgwick, turned his left, and drove him over Banks's Ford. He joined Hooker by United States Ford.

5*th May.*—Hooker, who, on the preceding day, had cut roads to the United States Ford, and laid bridges there, retreated over it in the night. Operation fails.

COMMENTS.

The point in common in these two cases is, that the forces which had succeeded in crossing beyond the enemy's flank, and which thereupon aimed at his rear, advanced on a front perpendicular to the course of the river. They thereby exposed the outward flank; and that they escaped destruction in either case was due to the fact that they continued to hold, at the time of the attack, certain points of passage. Had the Federals at Bull Run let go their hold of Stone Bridge, by continuing to advance, without gaining Mitchell's Ford—or had Hooker, moving down the stream, passed by United States Ford without gaining Banks's Ford—they would in either case have been in great peril of being driven not *across* but *into* the river.

We shall see, in the Part on Tactics, how this peril may be partially remedied by an advance in echelon, retiring the outward flank; though that method, by rendering the advance on the defender's rear less direct, would also render it less decisive.

But the inference may be drawn that, when the defender's forces are entirely on one bank, and the assailant has thrown a force across beyond the flank, the most effective mode of meeting the attack will be to march against the *outward flank* of that force, with all the troops available for immediate action.

It is also very useful to consider the circumstances in which these two cases differ.

Disadvantage of a double passage on the flanks.

At Bull Run a large part of the Federal force was retained to cover the line of possible retreat. At Fredericksburg the wings were both thrown across the river, and the advance assumed the form of a double passage and double attack. It is evident that a passage on both flanks exhibits at once, in its most disadvantageous form, the case of an army between whose parts the enemy's forces are interposed—since the parts are separated, not only by the enemy, but by the river, and may be successively overwhelmed and driven on their bridges, while the victorious army, passing a central bridge, may cut both from their lines of retreat, or of possible junction. Another example is afforded by the campaign of 1796, where the Austrians advanced to cross the Adige for the relief of Mantua at three points—namely, above Rivoli, on Verona, and near Legnago. At Verona they were checked; at the other points they passed. The French massed first on Rivoli, on which line the Austrians had been opposed by a retarding force under Joubert. Napoleon, defeating them at Rivoli, turned southward, and, in conjunction with the retarding force that had retired from Legnago and the troops besieging Mantua, fell on the Austrian left wing and destroyed it.

It may be held as established, then, that a double passage on the flanks *must* be wrong unless with a great superiority of force—and that superiority may generally be turned to better account otherwise. The passage of Bull Run, planned by General Scott, was much less faulty than that of the Rappahannock, planned by General Halleck.

The line of operation must be covered during the turning movement.

When Sedgwick was driven to join Hooker over Banks's Ford, the line to Aquia, on which the Federals were based, was totally uncovered. In front of Hooker was Lee's army, which had already heavily defeated him; in his rear was an unprotected line and base which the enemy, crossing at Falmouth, might assail. These circumstances could not but precipitate his retreat. This situation illustrates the impolicy of throwing a

whole army *off* its line of operation for the sake of turning the enemy; for though the chances of gaining a battle are increased, yet a reverse may be absolutely fatal.

Distribution of the turning and covering forces.

Considering it, then, as established that the proper way to turn the flank of the defenders of a river is to hold the passage on the direct line with a covering force during the movement, it remains to consider what should be the proportions of the covering and turning wings respectively, and their mode of operation.

The first object of the covering force is to resist a counter-attack; therefore full advantage should be taken of the circumstance that an *inferior* force can generally, for a time, successfully oppose the passage of a river at a known point. The covering force should therefore be diminished to the utmost extent consistent with safety, and the wing whose action will be most decisive should be reinforced in proportion. To do this it will be necessary, of course, to possess the means, by bridges or fords, of passing the greater part of the army promptly across the river on the enemy's flank.

If *the whole* of the defensive army were assembled to meet the flank attack, and the assailant's covering wing were to remain on the hither bank, his chances in the battle would be proportionably diminished. The second duty of the covering force should be *to occupy and detain before it as large a number as possible of the enemy,* by maintaining a cannonade, fire of infantry, and demonstrations of forcing a passage. Had the Federal force at Centreville advanced to the river and made a persistent attack on the lower points of passage, it would have been impossible to draw troops from thence to meet the flank attack. There should be skilful and incessant reconnoitring of the opposite bank; and when it is evident that the enemy has withdrawn all or most of the opposing forces to meet the flank attack, the covering force should cross at once, multiply its means of passage, and push the enemy on the march. Should the turning wing be defeated before the arrival of the covering force on the field, the latter should retire on the bridges by which it advanced, for the enemy will, or ought to, try to intercept the retreat on that line. But should the main army maintain the engagement, or continue to progress, the covering force should advance and join in the action in a direction still covering its own bridges; for the example of Waterloo shows how effective is a combined attack from two divergent lines.

The risk of failure, so far as it is caused by the difficulty of combining the assailant's movements, will be greatly diminished by the use of the field-telegraph.

A passage effected *on* the direct line of operation, and between, not beyond, the extremities of the enemy's front, presents none of these difficulties and necessities for skilful combined action. Every man should cross: for the divided enemy will certainly devote all his efforts to recombination, not to counter-attack; and in case of the assailant's defeat, he covers his line in retiring.

When a general throws a turning force off the line of operation, beyond a river, he naturally collects the rest of his army on the road forming the part of that line which is nearest to the turning force, for the sake of concentration. Thus, Louis Napoleon, sending M'Mahon by Turbigo, collects his army on the Novara-Vercelli road, neglecting that of Mortara-Casale, by occupying which his forces would have been dangerously extended on the day of battle. If, then, the enemy, abandoning the defensive, crosses and attacks the covering force, on the hither bank, it may be forced to fight on a front parallel to the last road which connects it with its base while the turning force is beyond the river; and if the covering force be defeated the whole army may be ruined. We see what the effect might have been had the Confederates crossed the Rappahannock at Falmouth or Bull Run at the lower fords; or had the Austrians, from Vigevano, attacked the covering force at Novara in 1859. This perilous position of an army astride a river will be better illustrated by an actual example.

PASSAGE OF THE CHICKAHOMINY.

The stream itself is inconsiderable, forty feet wide, and fordable at low water; but it was liable to sudden floods, when the low grounds on both sides were overflowed for a considerable distance.

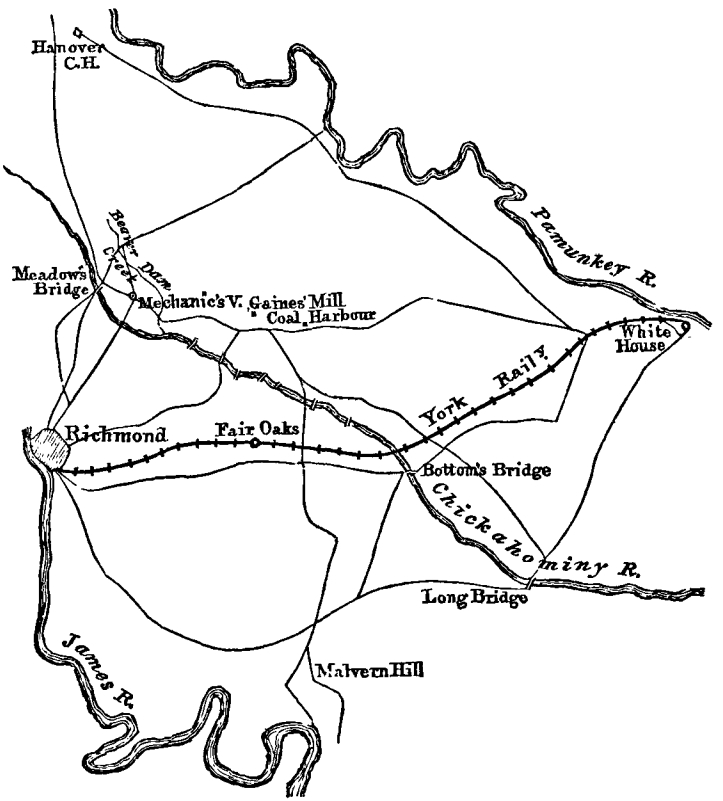
White House to Bottom's Bridge, 10.

The Federal army advanced from White House to Bottom's Bridge, which had been destroyed; the advanced-guard forded the stream and intrenched itself without opposition.

The centre and right moved to Mechanicsville, retiring whence, the

enemy destroyed the bridge, and prepared to oppose the passage from commanding ground. The operations embraced the portion of the river from Bottom's to Meadow's Bridge. Bottom's to Meadow's Bridge, 13.

"The entire army," says M'Clellan, "could probably have been thrown across the Chickahominy immediately after our arrival, but this would have left no force on the left bank to guard our communications, or to protect our right and rear."



On the 30th May, four Federal divisions were on the right bank, beyond Bottom's Bridge; they were attacked on the 31st in the indecisive battle of Fair Oaks, and kept their hold of the bank. Fair Oaks to Bottom's Bridge, 5.

The nearest supports were two divisions six miles up the stream, which crossed by bridges already thrown, to support the assailed wing. Federals astride the river,

Having completed his bridges over the stream, M'Clellan intended to cross entirely to the right bank and assail the Confederates before Richmond, on the 26th June. But on that day he was himself attacked.

Jackson approached by Hanover Court-House, and part of the Confederate army before Richmond, which had hitherto fronted M'Clellan, passed the Chickahominy above Meadow's Bridge and at Mechanicsville, to join in the attack on the Federals on the left bank. The advanced-guard of the Federals at Beaver Dam Creek was forced back to Gaines Mill—whence to Coal Harbour a new line was formed by the 5th corps.

are attacked on the left bank.

27th June.—The 5th corps was attacked. Part of the 6th and 2d corps crossed from the right to the left bank to support it. Finally the whole Federal right wing, outflanked on its right, was driven over the Chickahominy to the right bank.

Thus the communications with White House were absolutely lost, and in ordinary circumstances the army would have been ruined. It was in the expectation of such a result that the Confederates had attacked on that side. The army was saved by the fact that M'Clellan had made arrangements previously for transferring his depots by water to the James River; hence the disaster did not entail ruin; and the retreat upon the new base was effected by the most creditable fighting done by the Federals during the war. But the example serves to show, that *when an army is astride a river it may be most effectually attacked on the bank nearest its base,* if the hostile forces are already on that bank, or can readily pass to it, and if their own *last* line of retreat is not immediately threatened by the enemy's movements beyond the river. Reviewing the operations on the Ticino in 1859, it will now be readily seen what an opportunity was open to Giulay had he met M'Mahon's attack with an inferior retarding force, and, massing his troops on the right bank (instead of crossing, as he did, to the left), thrown his whole weight, on the 5th of June, on the side of Novara.

The most effectual counter-movements open to the defender.

Effect of increased width of the stream.

An increase in the width of the river increases in some respects the difficulties of the assailant, by augmenting the difficulty of throwing a bridge, without, however, materially altering the case. The first requisite for crossing is to establish some troops on the further bank to cover the passage of the rest. And this object will be greatly aided if artillery from the assailant's bank can bring such an effective fire

to bear on the defender's infantry, which may seek to overwhelm those troops, as to keep it at a distance and prevent it from manœuvring, and also crush any batteries which the enemy may attempt to establish to prevent the passage. Thus, under the conditions of artillery up to ten years ago, if a river were only two hundred yards wide, a defender's infantry assailing the first troops that passed over would be liable to be cut to pieces by the fire of the guns on the hither bank. But if the river were eight hundred yards wide, not only would the fire on the enemy's infantry at that range be less certain and effective (since neither case-shot from field-guns, nor grape from guns of position, would reach it), but the defender's batteries established at six hundred yards from the river would play effectively on the head of the bridge and the troops covering it, while their distance—fourteen hundred yards—from the assailant's bank would secure them from being overwhelmed by superior fire.

Improved weapons, in this case, favour the assailant.

These conditions have been altered, on the whole, in favour of the assailant, by the improvement in weapons. For though the relations of the opposing batteries might remain unaltered, yet the infantry from the one bank could now bring an effective fire to the aid of their comrades on the other; and thus the largest force—which, by the conditions of the case, it is supposed the assailant would always bring to bear at the point of passage—would prevail. If French troops crossing from Piacenza, and English troops thrown over the Douro at Oporto, in both cases far beyond the range of their comrades' muskets, could by surprise establish themselves and cover the passage, much more would such enterprises be likely to succeed when the first troops should be supported by the fire of the army on the other bank. And another circumstance in favour of the assailant is, that a large river will generally be navigable, and it and its tributaries will in most cases furnish a number of large boats sufficient to throw at once on the opposite bank a force capable of maintaining itself.

Effect of fortified passages.

The possession by the defender of fortresses or bridge-heads giving the command of both sides of a bridge modifies the conditions of passing a river. If they exist on the flanks of a line of operation, it will generally be impossible to pass the river on a flank; for the force attempting the turning movement must pass completely round the fortified passage before it could aid in the attack on another passage not so guarded. Therefore

in such a case the passage will be sought on the front of the defensive line. And if the defender be entirely restricted to the defensive, he will still be probably unable to prevent the passage. The possession of the bridge-head of Mannheim did not prevent the French from crossing the Rhine; and even on the short line of the Mincio the fortresses of Mantua and Peschiera did not prevent the Allies from crossing between them in 1859. Their value to the defensive army will consist principally in the facility and support they would afford to it in assuming the offensive against the enemy on his own bank: and the degree of their influence must depend on their position, a question which will be discussed hereafter in the chapter on Fortresses.

From a review of the chapter, the following deductions may be gathered:—

General conclusions.

1. Neither a mountain-chain nor a river affords a permanent line of defence, unless in exceptional circumstances: and it does not balance, in any appreciable degree, the disadvantage of decidedly inferior force.

2. The conclusions formerly arrived at respecting the general questions of turning a flank or breaking a front are only modified, not changed, in the case of the passage of a defended river. For if the defensive line be too extended, it will be best to pass the obstacle on the front; otherwise to turn the flank.

3. In case of turning the flank, the risk incurred by the turning force in case of defeat will be lessened by the river; since, to intercept its retreat, the enemy must cross the river between its point of passage and the point held by the rest of the army, where, it is to be presumed, no ready passage will exist.

4. An army defending a river, on finding its flank turned, does not generally seek to re-establish affairs by itself crossing to the other bank, but rather seeks to concentrate against the part of the enemy that has crossed.

5. Nevertheless such a counter-stroke, when the defender has the means of speedily crossing, may be the most decisive course; and the occasion for dealing it will be the defender's best, though very transient, opportunity.

6. On his own bank, the defender's most effective action will be against the outward flank of the turning force if it advances on a front perpendicular to the river.

7. Lastly—and very important for discussing the subject of the next chapter—in the majority of cases the passage of a river at points deliberately defended is difficult, doubtful, and costly to the assailant in men and time.

True uses of obstacles.

The true uses of obstacles, then, are not, as might at first sight appear, merely to increase the means of passive resistance. Their best effects will be—

To give their possessor increased power of manœuvring offensively, and of taking the enemy at a disadvantage. But their defensive uses are various:

Defensive uses of obstacles.

To cover a flank movement.—Thus, when Lee, after defeating Pope, crossed the Potomac above Harper's Ferry, and pushed his main force towards the Susquehanna (which was, relatively to the Federal army at Washington, a flank movement), he held the passes of the South Mountain with Hill's corps. M'Clellan from Washington attacked the passes with greatly superior numbers, but did not succeed in forcing them till the main Confederate army had retraced its steps and was assembled behind the Antietam, covering its line of retreat.

To afford opportunity for rallying a beaten army—as the Mincio did after Solferino, although found to be unsuitable as a permanent line of defence. The impression which so generally prevails, that it must be a mistake to fight with a river in rear, is a popular error. Provided the passages are assured, and sufficiently numerous in proportion to the force of the army, no circumstance can be more fortunate for a defeated host than the existence of an unfordable river in its rear, at such a distance as to leave full space for the retiring troops to file upon the passages behind their rear-guards. The first effective troops and batteries that pass line the bank on each side of the bridge, and give time for restoring order. It is only when those passages are inadequate or precarious, or the river too close to the rear of the troops, that the risk of disaster is increased.

To enable part of an army to hold a forward line and protect territory till reinforcements arrive: as the Prussians might have awaited the Russians on the Elbe in 1806; or *to cover a concentration in rear* like Zieten on the Sambre in 1815.

To enable a rear-guard to cover a retreat.

See Map No. 13.

MASSENA'S RETREAT (1811).

Example of the use of obstacles to a rear-guard.

In March 1811, Massena held Santarem with his 2d corps—the 8th corps was on its right at Pernes and Torres Novas—the 6th corps in reserve at Thomar, with a division under Loison guarding the bank of the Tagus on its left.

Massena had resolved to retreat by the roads of Pombal and Espinhal to Coimbra.

Thomar to Leiria, 25. Leiria to Torres Vedras, 52.

His first move was to march the 6th corps and cavalry, under Ney, to Leiria. This seemed to threaten an attack on Torres Vedras, guarded on the side of the Zizambre by two of Wellington's divisions.

Having sent all encumbrances to the rear, Massena began his retreat on the 5th March—the 2d corps upon Thomar, the 8th corps on Torres Novas. The bridges on the Alviella stream were destroyed.

6th March.—2d corps from Thomar on Espinhal.

Thomar to Pombal, 25.

The rest of the army, including Ney's corps at Leiria, concentrated on Pombal.

The heads of the British columns followed the 8th corps on Pombal.

The 3d and 5th English divisions from Torres Vedras on Leiria.

9th March.—Massena assembled for battle in position before Pombal.

An English brigade followed the 2d corps on Espinhal.

10th March.—Wellington formed to attack; when the enemy retired through Pombal, covered by a rear-guard under Ney on the right bank of the Soure.

In the night Massena regularly organised his retreat. The baggage and sick, protected by the reserve cavalry, were sent in advance—the 8th corps followed; the 6th corps, under Ney, covered the movement. "The country," says Napier, "was full of strong positions, the roads hollow and confined by mountains on either hand, and every village formed a defile: the weather also was moderate and favourable to the enemy, and Ney, with a happy mixture of courage and skill, illustrated every league of ground by some signal combination of war."

Pombal to Redinha, 6.

12th March.—The head of the British column came upon part of Ney's rear-guard (5000) deployed on a height across the fork of the streams, and covering the ford and bridge of the Redinha. Behind him was a

narrow bridge and defile; beyond the stream, on heights commanding his position, was a division of infantry with cavalry and guns.

Wellington, unable to ascertain the real force of the enemy, formed his army for attack. The reconnaissance and deployment occupied some hours. Ney waited to the last moment—then withdrew his right and centre, covered by his left, through the village, which he set on fire, and over the river. His reserves from the heights on the other bank covered the passage, then the French fell back on Condeixa.

Rear-guard forces the enemy to deploy.

Redinha to Condeixa, 12.

"There is no doubt," says Napier, "that Ney remained a quarter of an hour too long upon his first position; and Lord Wellington, deceived by the skilful arrangement of his reserve, paid him too much respect."

13*th*.—The British pursued and came on the 6th and 8th corps in order of battle at ten o'clock. Massena, who had intended to pass the Mondego at Coimbra, found the further bank occupied by Portuguese militia and the bridge destroyed, and resolved to retreat by the Puente de Murcella up the left bank of the Mondego to Guarda and Almeida. To insure this change of line, he had occupied Fonte Coberta strongly; and the approach to Condeixa being difficult, he was confident of effecting the operation.

Condeixa to Coimbra, 6.

Wellington detached a division over the hills to his right, to turn the French left. At three in the afternoon it arrived beyond the enemy's flank. Ney, setting fire to Condeixa to impede pursuit, fell back towards Miranda. The British following, cut off from him the divisions at Fonte Coberta on the one side, and opened communications with Coimbra on the other. The French troops at Fonte Coberta marched round the British in the night, and recovered communications at Miranda with the main body.

Rear-guard retards the enemy till turned.

F. Coberta to Miranda, 10.

14*th*.—The French strongly posted on the heights bordering the left bank of the Deuca, from Miranda downward. Wellington sent a division by the road Panella-Espinhal to unite with the British brigade on the Espinhal road, attack the 2d corps, and turn the French position by crossing the Deuca. Another division turned the position more immediately, while the division leading the main column attacked in front. Ney held the position until the main column had deployed, and the divisions had turned his flank, then retired through Miranda. Massena, threatened in rear by the British troops on the Espinhal

Rear-guard repeats the manœuvre.

road, burnt Miranda and passed the Ceira, leaving Ney to cover the passage. "His whole army," says Napier, "was now compressed and crowded in one narrow line between the high sierras and the Mondego, and to lighten the march he destroyed a quantity of ammunition and baggage."

Miranda to the Alva, 14.

Rear-guard suffers for committing itself to an engagement.

15*th.*—Ney, deploying a large force on the left bank of the Ceira, was attacked and driven into the river with heavy loss. He blew up the bridge, however, and continued to guard the right bank, while the main army took post behind the Alva.

16*th.*—The British halted for supplies, and to await the subsidence of the flooded river.

17*th.*—Wellington crossed by a bridge thrown in the night, and by fords, and found the French behind the Alva with its lower bridges destroyed.

18*th.*—Three divisions menaced the Upper Alva, two cannonaded the passages below. Massena thereupon concentrated on the Moita ridge, thereby forcing Wellington also to concentrate.

19*th.*—Massena retreated on Celorico.

Wellington concentrated on the Moita ridge.

These operations will suffice to show the manner in which obstacles aid, and are indeed essential to, the efforts of a retarding force, which opposes a superior enemy, whether as a rear-guard or as a body covering some decisive movement of the rest of the army. Wellington, coming up with Ney (who has about 10,000 against 40,000), must choose between attacking with the head of his column, with certain loss and with uncertain result—for he could not know, except by experience, what force might be in front of him; or deploying his whole army for battle, as at Redinha; or having recourse to a turning movement: and either of the last two methods cost him half a day in preparation.

On the other hand, the pursuing force, certain of support, operates boldly to a flank, and the retreating army is exposed to the risk of losing troops, either from being cut off by withdrawing too late, as at Fonte Coberta, or from being overwhelmed by superior forces, as on the Ceira.

The difficulties of operating by a single road, and the nature of the operations described in Part IV. Chapter I., are well illustrated by the remarks quoted from Napier.

The latter part of Massena's retreat exemplifies the use which may be made of an obstacle to cover a change of front. The French from Celorico made for the Coa by Guarda and Sabugal. Their position at Guarda threatened the flank of Wellington's line along the Mondego, the head of his column being at Celorico. Had he followed the same road as the French, that of Celorico-Guarda, with his whole army, he might have found his communications endangered; but by taking advantage of the bend of the Mondego, occupying the heights looking on its upper bridges with his right wing, he brought his left round, and changed the direction of his front in security.

Use of a river to secure the communications.

But besides their value to a defensive or retreating army, rivers may be turned to account by an army during its advance, in a very important manner, *by securing the line of communication.*

When an army is operating close to its base, and that base is extensive, it can change the direction of its front, or of its line of operation, freely, without endangering its communications. But as it advances, and increases the distance from its base, its lengthened communications become more and more open to attack. It can no longer change the direction of its front, or of its line of operation, without laying bare some essential communications. It is hampered by the lengthening chain it drags after it; and while the enemy, if near his base, or in his own country, can manœuvre freely on many sides, the advancing army becomes more and more rigid and constrained, till at last, far from thinking of offensive movements, its whole energies are absorbed in covering its precarious communications.

But if, under these circumstances, it can master some defensive line, strong for defence, and create thereon depots of material of all kinds, collected from the surrounding districts, and transferred from its own territory, it has carried its base forward, and recovers its freedom of manœuvre. Such a line is afforded by the course of a considerable river. Important passages on it, commanding many roads, are strengthened—recruits are brought thither from the rear, invalids are sent thither from the army, to occupy the works, and diminish the number of effective men withdrawn from active operations. Henceforth, all the roads between

the base and the river will be secure; and the relieved general, restored to full activity, will now be solicitous to preserve only his communications with the river.

Thus, Napoleon in 1813, advancing from the Rhine into Northern Germany, makes a secondary base of the Elbe from Pirna down to the sea. Pivoted thus, and creating a vast depot in Dresden, he directs his movements northward against Berlin, eastward into Silesia, southward into Bohemia, the line to France through Leipsic remaining all the time secure: and it is not till he quits the Elbe that this line is endangered.

Thus, also, Marmont's Army of Portugal, linked to France by the single road of Bayonne, broadens its base by fortifying the Douro from the Esla to Valladolid, and acquires all the latitude of action displayed in the campaign of Salamanca.

When a general, surveying the map of the theatre, finds direct obstacles in the path he must advance by, he sees in them, if he be confident in his own skill in manœuvring, increased opportunities for obtaining strategical successes. And the opposing leader will, or ought to, find them illusory aids, if he attempts to hold them entirely on the defensive. To turn them to account he must make of them successively the pivots of offensive operations, or employ them as a means of temporarily retarding the enemy. In fact, like any other complications in a game, they offer on both sides additional opportunities to skill and talent, and additional embarrassments to incapacity.

SCALE OF MILES.

10 0 10 20 30 40 50

CHAPTER IV.

OBSTACLES WHOSE GENERAL DIRECTION IS PARALLEL TO THE PATH BY WHICH AN ARMY ADVANCES TOWARDS ITS OBJECT.

Mountain-ranges of this kind.

WHEN French and Austrian armies moving east and west approach each other on the Po or the Danube, those rivers form obstacles of the kind whose influence is discussed in the present chapter. And while direct obstacles are at once seen to interpose difficulties and delay in the way of an advancing army, the effect of this other class of impediments is by no means obvious, and requires both thought and illustration to render it apparent.

Hazard of advancing on both sides of such an obstacle.

When Massena followed Wellington to the lines of Torres Vedras, the ridge of the Monte Junto divided longitudinally the space between the Tagus and the sea. Had Wellington retreated by both sides of the ridge, his wings would have been separated by the obstacle, and Massena, following by one side only, might have overwhelmed a wing with his whole force before the other could by a circuitous march support it. In the same way had Massena advanced on both sides of the ridge, while Wellington retreated by one, the whole English army might have fallen on a wing of the French.

This ridge, ending at the Zizambre, did not penetrate the lines; Wellington, therefore, could extend behind them across the whole space between the Tagus and the sea. The French, on the other hand, were still cramped by it; and all their interests lying away from the sea, of which England held the dominion, they concentrated between the ridge and the river; and having once elected to do so, they could not pass the ridge to attack on the other side without the risk of being themselves

assailed while in the act of passing, with the head of their columns separated from the rear by a difficult obstacle.

To advance on one side necessitates a detachment in rear.

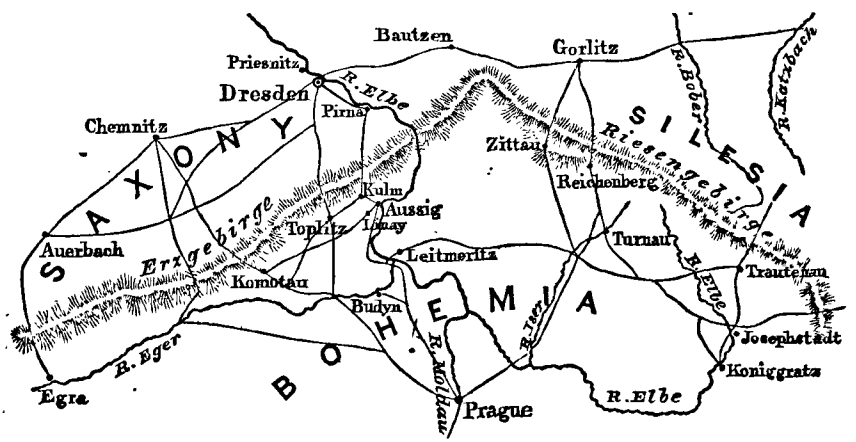
When Massena fell back on Santarem, Wellington followed him, still on that side of the ridge. But when the French halted beyond the northern extremity of the obstacle, while he was still cramped by it, the disadvantage was transferred from them to him, and led, as we have seen, to the dispersion of his army; for while they, from Leiria, could advance directly on Torres Vedras, he, from the Rio Mayor, must make the circuit by Alemquer, in order to reach that point, and it was therefore necessary to leave there troops sufficient to hold the ground till he could arrive. And as the screen of the mountains would enable the French to make their first march undiscovered, their relative proximity to Torres Vedras was thereby increased.

Deduction.

It may be assumed, therefore, that when, of two armies operating near each other on an obstacle of this kind, one immediately holds a passage over the obstacle, and the other is at a distance from its nearest passage, the former possesses the advantage.

Manner in which the obstacle may screen an offensive movement.

The manner in which an obstacle of this kind may be used as a screen for a movement against the enemy's communications is exemplified in the Leipsic campaign.



Napoleon had advanced from Leipsic through Dresden and Bautzen to the Bober in Silesia, pushing back the Prussians and Russians. During

this march the mountains of Bohemia lay on his right flank. An armistice being agreed on, both parties halted in their positions—the Allies being posted with their left on the mountains west of Glatz, and their right on the Katsbach.

Over the western face of the mountains (the Erzgebirge) there are several passes, and the Elbe there pierces the barrier. Napoleon had occupied the Elbe from Dresden upward to the Bohemian side of the mountains. Between the Elbe and the Allied position only two passes practicable for great operations existed—namely, from Gorlitz by Zittau and Reichenberg—these passes Napoleon occupied. Gorlitz to Zittau, 20.

Thus, when the armistice terminated, Napoleon, minus the detachments in his rear, fronted the concentrated forces of the Allies. French front is at a distance from its nearest passage.

They by their position covered a passage from Silesia over the mountains into Bohemia. Leaving Blucher in a strong position to cover the roads to the Oder, by which Russian reinforcements were coming, they marched, with their main body in successive corps, on the 13th and 14th August, traversing Bohemia, crossing the Elbe at Leitmeritz, and aiming at Dresden. Allies command a neighbouring passage,

On the 19th, Napoleon, hearing of the movement, led his detachments from the passes of Zittau and Reichenberg southward; but finding that the Allies were already beyond the Elbe, he left a rear-guard to face Blucher, and marched 80,000 men in three days ninety miles back to Dresden—the Allies, after moving through the four principal defiles, and pressing back the French corps guarding the roadway of the Elbe, being then assembled before the city. and break out on Napoleon's rear.

In this also is seen another proof of the assertion in Part III. Chapter IV., which has received so many confirmations in the course of this work, that when armies are aiming at each other's communications, that army whose communications are most immediately threatened abandons the initiative, and conforms to the movement of its adversary. For Napoleon was linked to France by the sole line Dresden-Leipsic-Hanau; and though, when he marched from Zittau into Bohemia on the 19th, he was nearer the road by which the Allies had marched, and by which they communicated with Blucher, than they were to Dresden, yet they were not bound to that road, for, Austria having joined the coalition, they might now base themselves on the Danube by Prague and Budweis.

Napoleon, therefore, not being able to deliver an effectual counter-stroke against their communications, was obliged to interpose for the defence of his own.

Rivers of this kind.

We will now turn to the case of *rivers* forming obstacles of the kind in question; and the campaign of 1859 at once affords two simple and forcible illustrations of their influence.

See Map No. 5.

Before the arrival of the French in the theatre of war, the Sardinians held the line of the Dora Baltea, seeking to cover Turin *directly* against the Austrians, then on the Sesia; but by the advice of the French Marshal Canrobert, they relinquished this line, which was weak in the centre, too extensive for their numbers, and liable to be turned on the left by the road of Ivrea, and took post at Casale on the south side of the Po, holding, by garrisons in works on the left bank, the passage of the river.

Sardinians at Casale check the Austrian advance on Turin.

Under these circumstances, if Giulay should throw his whole force towards Turin, the Sardinians would in a moment, by an advance on the road Casale-Vercelli, sever his communications. He must therefore place a force opposite Casale to guard against this peril, while the heads of his columns pushed upon the capital. But what if this Austrian covering force should be too weak to maintain itself—and not only itself, but the whole line between the Ticino and the head of the columns—against a combined attack of the Sardinians crossing at Casale? In such a case the army would be compromised. Hence it was that Giulay took his steps so cautiously towards Turin, throwing forward successive corps supporting each other, and placing a large force astride of the road Casale-Vercelli; till finally, caution prevailing over enterprise, and French troops appearing in the works of Casale, he relinquished the attempt, and withdrew behind the Sesia.

Austrians at La Stella prevent the French from moving on Piacenza.

Shortly afterwards the situation was reversed; for, when the French had joined the Sardinians, the Austrians were thrown on the defensive, and it was manifestly the interest of the Allies to pass the Po beyond the enemy's flank at Piacenza. But the Austrians held, near the junction of the Ticino, a fortified passage over the Po at La Stella, the works on the south bank there forming an intrenched camp capable of holding a large force. Had the French from Voghera passed along the defile of

Stradella aiming at Piacenza, the whole Austrian army might, from La Stella, have burst on their flanks, split them asunder, and overwhelmed all eastward of that point; and this, doubtless, was one potent reason inducing the Emperor to advance by the line, strategically so inferior in importance, Casale-Vercelli-Novara.

Assailant requires greatly superior numbers.

To leave a defended passage of a river of this kind behind, when the defender holds both sides of the bridge, demands, then, a covering force at least equal to the force of the enemy; and moreover, the next passage, which the assailant has just quitted, must, until the enemy's rear is attained, be adequately occupied, lest the enemy should break out upon the rear (as the Allies must have continued to observe Valenza while passing La Stella, and aiming at Piacenza).

Risk of the assailant lessened if the defenders are restricted to one bank.

If the defensive army is restricted to its own bank, or if it is not in condition to cross and fight, the risk incurred by the assailant in marching along the river to break out upon the enemy's rear is proportionally diminished. It will be only necessary to conduct the movement with such secrecy that the assailants shall assemble on the further bank, at the point aimed at, faster than the defenders, so as to avoid the risk of either attempting to force a passage in the face of superior numbers, or of being overwhelmed during the passage by the more rapid concentration of the enemy. Thus, in 1796, the Austrians held the Po from opposite Valenza to Belgiojoso; Napoleon's divisions held the south bank from Valenza to Voghera. He resolved to march down the bank beyond the Austrian front, and pass at Piacenza; and to this end his divisions marched simultaneously in that direction, except that at Valenza, which remained both to detain the Austrians and to cover the communications with Turin from counter-attack. Having succeeded in gaining one march on the enemy, he crossed at Piacenza, in boats, faster than they could arrive there, beat their first troops, and drove them apart; seized the bridge of the Adda at Lodi, and forced the dispersed enemy to seek the shelter of the Mincio. And another instance similar to this has already been cited, in the operations of Moreau against Kray, when he threw his right over the Danube at Blenheim to cut off the Austrians in Ulm. Each of these operations, however, was undertaken against a beaten army, from which a vigorous counter-stroke was little to be feared; but they serve to prove that, in order to turn the river to full account, the defender must be in

complete possession of points of passage, and this will generally be secured by field-works covering both ends of the bridge. Supplementary bridges should also be thrown to facilitate the assembly on either bank. These conditions fulfilled, the position of the defender is such as to compensate for considerable inferiority of numbers.

Hence it is that, as the Archduke tells us, the first care of a general posted on the Danube should be to establish, at the point he occupies, a double bridge-head—that is, a work at each end of the bridge, and insuring the passage of the army to either bank.

Example of necessity of guarding passages in rear.

To show the necessity of guarding the communications of an army which is about to cross a river of this kind to attack the enemy, even when that enemy does not hold assured passages, let us take the case of Napoleon and the Archduke in 1809. The Emperor had captured Vienna, and was about to cross at Essling to attack the Archduke, who did not possess a bridge between Ratisbon and Vienna, but only the means of throwing one. Yet during this critical operation, when every French soldier was wanted at the point of attack, Davout was retained with 30,000 men on the right bank between Vienna and Krems, so as to be able to assemble them at either point in one march, and guard the communications with France; while, further back, Linz was guarded by a corps of Wurtembergers, and Passau by another of Saxons, and a strong garrison was kept in Ratisbon. And when Napoleon subsequently withdrew many of these troops to reinforce the main army, he compensated for the want of them by erecting strong works, suitably armed and garrisoned, at all possible points of passage—that is to say, at all points which presented, on each bank, roads suitable for the sustained operations of great armies.

Influence of the obstacle not to be evaded.

It might at first appear that, in an extensive theatre, the influence of an obstacle of this kind might be *evaded* by the assailants advancing on a line far distant from it. But the campaign of 1796 in Germany, already detailed, shows the futility of such an attempt. Jourdan, whose march lay a long way from the Danube, was nevertheless compelled in a moment to pause, and then to retreat, by the advance of the Archduke on the line Neuburg-Nuremberg, perpendicular to the French communications.

In fact, an obstacle of this kind confers on its possessor all the advantages of the angular base *augmented*, because extending to both sides of

the theatre. It presents a succession of points which must either be directly attacked, or turned under protection of a covering force, and either course demands superior numbers. Of the two kinds of obstacles, rivers are best for defence, because it is much easier to pass troops over bridges than over a path in a chain of mountains, and the army that holds the passage has, therefore, readier means of concentrating on either side of the obstacle, or of maintaining communications between the wings if astride of it; while it is equally serviceable as a screen for movements, and as a means of dividing the enemy.

Supposing, then, an Austrian army in a war with France to have advanced up the Danube to Ulm, a French army, aiming at Vienna, must either drive the Austrians from Ulm, or, passing that place, must cover its march with a force capable of dealing with the whole Austrian army. Should it, without such protection, continue to advance eastward, the Austrians descending perpendicularly on its line of communication with France, would force it to form front to a flank. If the French were defeated in this way on the side of Munich, they would be driven on the Tyrol—if on the side of Nuremberg, they would be driven on the Maine; while in either case the Austrians, if defeated, would obtain shelter behind the Danube. And if the French army should hold the river down to Ratisbon, the case would be reversed in its favour, for the Austrians could not pass westward beyond the Isar on one side nor Bayreuth on the other.

Consequent importance of the Danube,

We may now understand what the Archduke Charles meant when he said, "The history of the wars of Southern Germany, since the conquest by the Romans to the nineteenth century, furnishes a thousand proofs of this maxim, that the valley of the Danube is the key to the country. In all times its banks have been struggled for, and the issue of these great conflicts has always been to the advantage of the side that mastered them."

but only a certain portion of it.

But he expressly limits the influential portion of the river to the space between Ulm and Ratisbon; and the reason is that, above and below, the country does not afford roads by which to operate on both banks, and is unfit, from its nature, for the manœuvres of great armies. Were an Austrian army posted on the Danube above Ulm, the French from the Rhine, blocking the defiles of the Forest, might pass round it to Ulm. In fact, the mountains, with their defiles, would neutralise the influence of the river; and below Ratisbon, down to Passau, the difficulties of the

Bohemian mountains, and the absence of passages, would render the possession of the river of small value.

Case of armies each holding a portion of the river.

It might happen that the French would hold one part of the river, the Austrians the other. The French might be at Neuburg, the Austrians at Ingolstadt. If the French wished to advance, they must either pass by the passage of Ingolstadt or force it. The risk of passing it by has been discussed. If the French advanced to attack it by both banks, the Austrians, concentrating on one, and holding the passage with a containing force, would throw their weight on a portion of the French. If the French advanced altogether on one bank, the Austrians, if too weak to accept battle uncovered, might concentrate on the other, still maintaining their communications with Ratisbon; thus the enemy must force a passage at a known point. For example, in 1796, the Archduke charged Latour, if he were pressed by Moreau, to cross the Danube. And even supposing the opposite bank to that on which the French were advancing should not be defensible at that point, yet the course of the river would be certain to supply ground suitable for the purpose; for in order to be indefensible, it must be commanded by the opposite bank, and devoid of all advantages for disputing the passage. If the banks were of equal command on both sides, or level on both sides—or if the Austrian bank, though the lower, afforded good points of defence—or if, on that bank, a good position existed within cannon-shot of the bridge—the enemy must attack at a disadvantage. One or other of these conditions would exist in the great majority of cases; and points of passage where these conditions did not exist, if not capable of being rendered available by fortifications, need not be included in the system of defence.

The army that advances offers an advantage to its adversary.

Since, then, either to force a passage, or to pass it by, demands superior forces, we find that the advantages of a line of defence of this kind are such as to compensate for considerable inferiority of numbers; but that these advantages are *entirely on the side that holds the defensive, and to profit by them, an army must take position near a point of passage, and await the movements of its adversary.*

CHAPTER V.

CASE OF TWO OR MORE CONVERGENT RIVERS WHOSE GENERAL COURSE IS PARALLEL TO THE PATH BY WHICH AN ARMY ADVANCES TOWARDS ITS OBJECT. — CAMPAIGN OF 1814 IN CHAMPAGNE.

See Map No. 14.

GREAT additional complexity is introduced into the question of the influence of rivers of this class, when two or more flow in the same general direction and converge.

If the operations lie altogether on the *outward* bank of one of two such rivers, the other river loses all immediate importance. Thus the Isar would have no influence on a campaign north of the Danube.

Conditions under which an army advances in this case.

But it may happen that the most direct routes lie *between* such rivers; and moreover, in the various windings of the streams, pass from one bank to the other. In this case an army, advancing by these routes, must sometimes be under the necessity of forcing the passage at a known point. And while moving on the *inner* bank of one river it will be exposed in flank to the direct attack of an enemy who makes the other river the pivot of his stroke. Thus one great road to Paris from the east passes to the south bank of the Marne at Chalons, and repasses to the north bank at Trilport. And another road, also from the east, passes the Aube at Dolancourt, crosses to the south bank of the Seine at Troyes, and repasses to the north bank at Nogent. An army moving from Chalons to Trilport exposes a flank to the attack of an enemy posted on the Seine; an army moving from Chaumont to Dolancourt exposes a flank to the attack of an enemy posted on the upper Marne at St Dizier; and on again emerging into the space between the rivers at Nogent, it is exposed to the attack of an enemy pivoting on the lower Marne. The ensuing narrative of

operations will give the reader an illustration of what is perhaps the most complex problem which a theatre of war can present.

CAMPAIGN OF 1814 IN CHAMPAGNE.

After the battle of Leipsic, Napoleon retreated to France by way of Frankfort and Mayence, leaving garrisons in many fortresses in Germany (where they were lost to him), in Holland, and on the Belgian and German frontiers of France.

The Allied Army of Bohemia, under Schwartzenberg, approached the Rhine at Basle.

Basle to Coblentz, 220.

The Army of Silesia, under Blucher, approached the Rhine at Coblentz, Mayence, and Mannheim.

Two corps, Prussian and Russian, under Bulow and Winzingerode, in a series of operations expelled the French from Holland.

Prussian plan of invasion.

Blucher wished the united armies of the Allies to cross the Rhine between Mayence and Coblentz. If the fortresses of the Moselle should prove to be weakly garrisoned, he proposed to take them—if strong, to observe them; and then to march by this, the shortest, line to Paris, returning if necessary, after overthrowing Napoleon, to capture the strong places.

Austrian plan.

The Austrians wished to turn the line of fortresses which guarded Paris from the east, by advancing from Switzerland. They argued that the investment of the great fortresses, by withdrawing so many detachments superior in number to the garrisons, would tell against the Allies. Moreover, they wished, by operating from Switzerland, to separate Napoleon from his army in Italy. Therefore the Austrians followed this route; and Blucher moved on the intermediate line of the Moselle to connect the main army with the Allied corps in Holland.

Allied forces.

ARMY OF BOHEMIA,

Commanded by Schwartzenberg—Radetzky, Chief of the Staff.

Corps	1	Austrian	General Colloredo.
,,	2	Austrian	Louis Lichtenstein.
,,	3	Austrian	Giulay.
,,	4	Wurtemberg	Prince of Wurtemberg.
,,	5	Austrian and Bavarian	Wrede.
,,	6	Russian	Wittgenstein.

Two light divisions under Bubna and Maurice Lichtenstein.

In all—95,000 infantry.
21,000 cavalry.
468 guns.

ARMY OF SILESIA,

Commanded by Blucher—Gneisenau, Chief of the Staff.

Corps 1	Prussian	York.
„ 2	Prussian	Kleist.
„ 8	Russian	Langeron.
„ 9	Russian	
„ 10	Russian	
Cavalry	Russian	
Corps 6	Russian	Sacken
„ 11	Russian	
Cavalry	Russian	

In all—69,000 infantry.
19,000 cavalry.
478 guns.

To oppose these Napoleon had the corps of Ney, Marmont, Victor, and Macdonald, and the Imperial Guard under Mortier and Oudinot; at the outset, about 70,000 infantry and 17,000 cavalry, with a great number of guns, with which to meet the heads of the Allied columns; and throughout the campaign he was constantly reinforced from reserves at Paris, and from the Pyrenees. On the other hand, Schwartzenberg had a reserve of 50,000 men at Basle under Barclay de Tolly. French forces.

The Vosges Mountains extend parallel to the Rhine, separating its basin from that of the Moselle, and fall back at an angle opposite Basle. From thence southward the barrier is taken up by the Jura.

The space between the extremities of these ranges is known as the Gap of Befort, which gives admission to the valley of the Rhone, the only obstacles being the weak places, Befort, Blamont, &c. Thence the road to Paris leads over the Morvan range into the valley of the Seine at Langres.

At the appearance of the Allies on the Rhine, Napoleon, notwithstanding the inferiority of his numbers, extended his troops near the frontiers on a wide arc of defence. He argued that the Austrians must leave many men before the fortresses, and it would therefore be possible to close against them the great roads from Alsace; that Blucher also would invest so many places that Marmont could retard him and fall on his left if he should attack Macdonald, whose corps was on the lower Meuse. First dispositions of Napoleon.

Therefore Mortier was to bar the road by Langres, Ney by Nancy—Victor was to hold the Vosges Mountains against Schwartzenberg. Langres to Nancy, 70.

Marmont was to oppose Blucher.

Macdonald to hold Belgium.

Augereau to hold Lyons—thus communicating with the army of Italy, and those of Soult and Suchet in the Pyrenees—and was to watch for an opportunity of operating by the Rhone valley against Schwartzenberg's communications.

Advance of the Allies.

Schwartzenberg's Movements. — Obviously the Gap of Befort was the point where, by turning both the Vosges and the Jura, it was easiest to pass. The mass of the army of Bohemia therefore passed there. But to secure the flanks, corps were pushed out to the right to invest the fortresses in Alsace (Strasbourg, Kehl, Colmar, &c.), to the left to oppose Augereau and to invest Dijon, Besançon, Auxerre, Befort, &c.

Giulay's corps moved on Langres, driving back Mortier.

Wrede turned Victor's right in the Vosges, and moved on Neufchateau.

Wurtemberg up the Moselle to Epinal.

Wittgenstein on Nancy.

In the middle of January, Giulay from Langres, in line with Wrede at Neufchateau and Wurtemberg from Epinal, together pushed Mortier back on Bar-sur-Aube, and thence through Vandœuvres to Troyes.

Bar to Joinville, 28.

25*th January.*—Giulay occupied Bar.

Wurtemberg on his right.

Wrede between Chaumont and Joinville.

Sacken (left of Blucher's army), Joinville.

French retreat beyond the Meuse.

On the French side, Victor had retired from the Vosges and joined Ney at Nancy. Marmont, retreating before Blucher through Metz, had joined the other Marshals at Nancy; the three had retired from thence upon St Dizier; attacked there by Sacken, and turned by the road from Joinville, they fell back to Vitry.

The French fortresses left in Blucher's rear were blockaded;—Mayence by the troops of Saxe-Coburg; Luxembourg and Thionville by Hessians; Metz by a Prussian division; and, until the arrival of the Hessian and Saxe-Coburg forces, they were watched by Prussian cavalry.

Coblentz to Dusseldorf, 5.

Meanwhile Winzingerode had passed the Rhine at Dusseldorf, and Macdonald, observing Blucher, had retired up the Meuse by Liege and Mezières towards Chalons.

Winzingerode halted at Namur, but subsequently resumed his march by Avesnes on Laon. For the present he need not be taken into account.

Such were the movements that preceded the junction of Blucher's left with Schwartzenberg's right on the Marne, and the assembly of the French corps on the arc of which Paris is the centre, and the rivers Seine, Aube, and Marne (and later the Aisne) are the radii. With this position of affairs the problem under investigation, of the influence of convergent rivers, commences. Junction of the Allies on the Marne.

The district east of Paris, known topographically as the basin of the Seine, is bounded east, north, and south by hill-ranges. Three streams take their rise in the eastern range—the Seine, the Aube, and the Marne—and along their banks lie the great direct roads from the Rhine frontier to Paris. These rivers, though of no great width, averaging fifty yards, are deep, and generally impassable except at the bridges. These bridges were now barricaded, and important passages on the main lines, as Troyes and Nogent, Chalons and Meaux, were rendered secure against a sudden attack. Description of the theatre.

The country about these rivers is quite unenclosed. Great fields, without fence or division, extend across the spaces between them. The roads are few; the open country would permit troops to move freely in all directions, and to deploy for battle, in dry weather; but in this winter season the cultivated ground, and the swamps bordering the small streams, would prevent this, and restrict the columns frequently to the roads. Only the great chaussées were suited to sustained operations. The cross-roads were of bad quality, and in many parts waggon-trains could only move on them with difficulty.

In this theatre Napoleon now prepared to oppose a single line of defence to a double line of invasion, for Schwartzenberg was bound to the line Langres-Basle by the necessity of keeping open his communications with the troops investing the fortresses; Blucher to the line Chalons-Mayence, to maintain his communications with Belgium and the Rhine. Allies still operate on a double line.

The Emperor's general plan was to hold the bridges on each side with his wings, and with the main body to manœuvre between them, casting his weight on each adversary alternately, while the other wing, aided by the river, contained the other hostile army. Napoleon's general plan.

And foreseeing that these movements from side to side would be frequent, he established his line of main supply on the central road between the rivers, of La Ferté-sous-Jouarre-Sezanne-Arcis, and ordered those and other points to be fortified sufficiently to secure them against a rush of Cossacks. French communications.

Paris to Chalons, 100.

25th January.—Napoleon went to Chalons to commence operations. Imagining Blucher's different corps to be scattered on the march, he resolved to unite the corps on the Marne at Vitry, and leaving Marmont at St Dizier, and Macdonald then approaching Chalons, to bar the passage of the Marne against Blucher, to turn himself by Joinville on Chaumont, calling up his right wing to him from Troyes and Arcis, and falling on the head of Schwartzenberg's columns.

Vitry to St Dizier, 18.

Accordingly he moved from Vitry with 35,000 men on the 26th.

27th.—He drove a Prussian detachment from St Dizier.

St Dizier to Joinville, 17. Joinville to Brienne, 30.

But Blucher on the same day, leaving his right in St Dizier, was moving to join Schwartzenberg on the Aube, and was crossing the space between the Marne and Aube with 30,000 men of Sacken's command, and part of Langeron's. Learning this at St Dizier, Napoleon turned to pursue Blucher, in the hope of intercepting him before he could be supported by Schwartzenberg.

Napoleon pivots on the Marne, to strike the flank of the enemy moving between the rivers.

28th.—Sending Marmont along the highroad by Joinville to Brienne, he moved with Ney and Victor, by Vassy, on Montierender across a difficult country, at the same time sending orders to Mortier, then at Troyes, to remain on the Aube.

29th.—He debouched into the valley of the Aube, near Brienne.

Blucher evades him by retreating.

Blucher, from Bar, had hastened down the Aube to cut Mortier from Napoleon, and crush him singly; but learning Napoleon's advance, he retraced his steps in time to reach Brienne. Here Napoleon attacked him, and after an indecisive action Blucher retired along the road to Bar.

Brienne to Troyes, 25. Brienne to Chalons, 47.

Napoleon was now within easy distance of his wings at Chalons and Troyes. With the latter point he was connected by Gerard's division at Piney. Joining Mortier he would have 80,000 men to meet Schwartzenberg—joining Macdonald he would have 55,000 against Blucher, which he considered nearly sufficient. / Posting his own troops across the roads from Bar and from Joinville to Brienne, and joined at Morvilliers by Marmont from Joinville, he awaited events, his right on the Aube, at Dienville, his left at Morvilliers.

Blucher had halted at Trannes, a few miles from Brienne. Schwartzenberg's leading corps reinforced him.

Battle of La Rothière.

1st February.—The main body of the Allies advanced by the right bank

of the Aube upon Napoleon, sending a strong detachment on the left bank to turn his right, and another beyond the Joinville road to turn his left. Napoleon would now have joined Mortier at Troyes; but seeing the main body of the enemy approaching, he judged that he could not pass the river without fighting, and stood to receive them. Nearly treble his numbers on the field, they broke his centre and captured a great part of his artillery, though his right held fast at the bridge of Dienville. During the night he fell back through Brienne to Lesmont, and passed the river, covered by Ney's corps on the right bank, by Mortier on the left bank, and by Marmont, who, retiring from Morvilliers, had taken post on the Voire. The enemy at first imagined Marmont's corps to be the main army, and sent Wrede's corps to attack it: but the French Marshal, retiring over the Voire, defended the passage, inflicting considerable loss on the enemy, and made good his retreat to Arcis, where he could, according to circumstances, defend the Aube or join Napoleon at Troyes.

2*d February.*—Macdonald at Chalons was attacked by the corps of York from Metz.

Schwartzenberg advances on the Seine and Yonne.

The main body of the Allies was now directed by the roads of Vandœuvres and Piney on Troyes. On the left, two corps, Giulay's and Colloredo's, moved on Villeneuve-l'Archevêque and Sens, to compel Napoleon to evacuate Troyes, and to secure the Yonne.

Troyes to Sens, 44.

3*d February.*—Blucher, as Napoleon had foreseen, had many reasons for wishing to return to the Marne. York's corps was now at Chalons, and Kleist's and part of Langeron's were moving thither from Metz; joining these he would have near 60,000 men with which to operate independently, and might be the first to enter Paris. By moving thither at once he might cut off Macdonald's direct retreat, and drive him on Epernay. Therefore, and because, also, his impatient spirit rendered him dissatisfied with the slowness and circumspection of his associate general, he led the troops which he had brought from the Marne to Brienne, across by Rosnay, St Ouen, and Fère Champenoise, to the road Chalons-Montmirail, sending Sacken towards Montmirail.

Blucher returns to the Marne.

5*th February.*—Macdonald, after destroying the bridge, evacuated Chalons, retreating on Epernay.

French left wing retreats.

York pursued Macdonald to Chateau-Thierry. Macdonald destroyed the bridge after crossing.

Blucher's army advances between the rivers.

Sacken moved by Montmirail on La Ferté-sous-Jouarre, and the rest of Blucher's troops from Fère Champenoise, followed towards Champaubert, while Kleist and Langeron were near Chalons.

Chalons to C. Thierry, 50.

Thus the Army of Silesia was spread in lengthened columns along the inner bank of the Marne.

Napoleon hesitated whether to fall on Blucher, or Giulay and Colloredo. He made a false attack from Troyes on the main body, to ascertain their movements; and repulsed a counter-attack on the bridge.

Troyes to Nogent, 32.

6th February.—Having resolved to strike at Blucher, he and Marmont (from Arcis) joined at Nogent. Mortier remained at Troyes to cover the movement.

Nogent to Sezanne, 20.

7th February.—Marmont to Sezanne—Mortier, with the Guard, to Nogent—Victor's corps, and Oudinot's division of the Guard, to hold the bend of the Seine from Nogent to Bray.

Napoleon pivoting on the Seine, attacks Blucher's flank,

8th February.—Ney's corps followed Marmont.

9th February.—Napoleon followed with Mortier's division of the Guard—in all, 30,000. Blucher had sent some Cossack regiments to occupy Sezanne—these were driven out, and retreated on Sacken.

On this day Blucher's corps were thus situated:—

York, ...	18,000,	Chateau-Thierry.
Sacken, ...	20,000,	Between Montmirail and La Ferté-sous-Jouarre.
Olsuvieff (of Langeron's command), . .	3,500,	Champaubert.
Blucher with 2 corps, Kleist and Langeron,	15,000,	Vertus (from Chalons and Vitry).

pierces it at Champaubert, turns on the separated corps of the enemy,

10th February.—Macdonald was at Meaux. Napoleon, from Sezanne, fell on Olsuvieff, who did not know of the expulsion of the Cossacks, and destroyed his corps. Leaving Marmont to oppose Blucher on the side of Etoges, he turned with Ney and the Guard to follow Sacken, passing through Montmirail to the junction of the roads from Chateau-Thierry and La Ferté-sous-Jouarre.

and routs them at Montmirail; Sezanne to Champaubert, 13.

11th February.—Sacken, who had pursued Macdonald's rear-guard to Trilport, and destroyed the bridge there, warned of Napoleon's approach, and sending to apprise York, moved on Montmirail; York, who had restored the bridge, holding Chateau-Thierry, sent part of his corps to co-operate with Sacken. Napoleon defeated them with very heavy loss, and drove them on Chateau-Thierry.

12*th February.*—Pursuing them, he drove them beyond the Marne. In retreating they destroyed the bridge. Champaubert to Montmirail, 13.

12*th and* 13*th February.*—The bridge was repaired. Montmirail to Chateau-Thierry, 16.

Mortier passed it to pursue York and Sacken, who were retiring on Chalons by the circuit of Fismes and Rheims, there being no direct road. Macdonald from Meaux was sent by Guignes to reinforce Victor. Meaux to Guignes, 24;

Blucher advanced on Montmirail.

Schwartzenberg attacked the bridges of the Seine.

14*th February.*—Napoleon joined Marmont, attacked Blucher at Vauchamps, and drove him, with severe loss, half-way back to Chalons. Leaving the pursuit o Marmont, he returned to join Victor and Oudinot. These Marshals, far outnumbered and turned on the side of Fontainebleau, had fallen back to a strong position behind the Yères, where Macdonald joined them. then returns on Blucher, and drives him towards Chalons.

This day Winzingerode entered Soissons expecting to join Blucher at Chateau-Thierry. Army of the North enters the theatre.

16*th February.*—Army of Bohemia was thus situated after passing the Seine:—

Advanced-guard at Mormant.
Wittgenstein at Nangis.
Wrede at Donnemarie.
Wurtembergers at Montereau.
Giulay at Pont-sur-Yonne.
Colloredo at Fontainebleau.
Reserves at Sens and Nogent.

Schwartzenberg pushes back the French right wing.

Napoleon had hesitated whether to fall on Schwartzenberg's flank by Sezanne, or to march round by Meaux and Guignes to join the Marshals on the Yères. The alarm of the Parisians at the approach of the Allies caused him to decide for the latter course. Napoleon joins the right wing.

17*th February.*—Advancing from the Yères, he drove the advanced-guard of the Allies from Mormant on Nangis, and Wittgenstein and Wrede retreated to the left bank of the Seine. Schwartzenberg retreats.

Oudinot was directed on Nogent.
Macdonald ,, ,, Bray.
Victor ,, ,, Montereau.

Nangis to Nogent, 24.
Nangis to Montereau, 16.

The Allies held the bridges long enough to cover Colloredo's retreat to the right bank of the Yonne.

Napoleon forces the passage at Montereau.

18th February.—Napoleon forced the passage at Montereau (where the right bank, on which the Wurtembergers stood to fight, greatly commands the left), driving the defenders over the river and through the town. Oudinot and Macdonald, relinquishing the attacks on Bray and Nogent, where they had failed to force a passage, filed through Montereau.

18th to 23d.—Napoleon had now been reinforced to 70,000, not counting Mortier and Marmont. Schwartzenberg, with 100,000 less concentrated, did not think it prudent to meet him. He fell back towards Troyes.

Blucher returns to the Aube.

Chalons to Arcis, 32.

Meanwhile York and Sacken had rejoined Blucher at Chalons by Rheims. On the 18th, Blucher, from Chalons, moved with 50,000 men on Arcis. Finding that Schwartzenberg was retreating before Napoleon, Blucher occupied the bridge and town of Mery-on-the-Seine. Napoleon, sending Oudinot to attack him and to secure his flank at Mery, followed Schwartzenberg, who retreated by Bar towards Chaumont.

Blucher again crosses to the Marne,

24th.—Napoleon entered Troyes. The Allies now resolved to call up from Bernadotte's Army of the North the corps of Bulow, by Laon, to Soissons. Winzingerode was at Rheims. Blucher, to join them, to draw Napoleon from the pursuit of Schwartzenberg, and to seek an opportunity of attacking Mortier and Marmont, moved towards Sezanne, breaking the bridges of Plancy and Arcis.

Marmont was at Sezanne.
Mortier at La Ferté-sous-Jouarre;

having returned to the Marne from their ineffectual pursuit of York and Sacken; throwing a garrison into Soissons after Winzingerode quitted it.

and pushes back the French left wing,

25th.—Marmont, from Sezanne, retreated before Blucher, by La Ferté-Gaucher, and joined Mortier on the 26th. Napoleon quitting Troyes, and leaving a force once more to oppose Schwartzenberg, moved by Sezanne to attack Blucher.

which contains him on the Ourcq.

27th Feb.—Blucher, on the left bank of the Marne, holding the bridge at La Ferté with his right, threw his left forward to cross at Trilport, and cut the Marshals from Paris. But the Marshals reached Meaux before him, and held the line of the Marne and Ourcq from Meaux to Lisy, holding the bridge at Trilport with a brigade.

Meanwhile the Allies in council at Vandœuvres, feeling all the difficulties of the situation, had formed a new plan. The Grand Army was to

remain in observation in the centre, throwing out a wing towards Lyons and securing the line to the Rhine; while the army of Silesia, considered as the other wing, and reinforced by Bulow and Winzingerode, was to take the offensive on the side of the Marne.

The Marshals Oudinot and Macdonald, commanding the containing force, pushed Schwartzenberg's rear-guards over the Aube.

28*th Feb.*—Napoleon was at Sezanne. He might advance from thence either by Montmirail or Chateau-Thierry, separating Blucher from Bulow and Winzingerode, or towards the Marshals, so as to cover Paris. He moved on La Ferté-sous-Jouarre. Napoleon, pivoting on the Seine, advances to attack Blucher.

Blucher, who had crossed at La Ferté, at Napoleon's approach destroyed the bridge there, and continued to press the Marshals on the Ourcq, sending Sacken, supported by Langeron, to attack Meaux, and York followed by Kleist to Lisy. Sezanne to La Ferté-sous-Jouarre, 33.

2*d and* 3*d March.*—Napoleon having thrown a bridge, crossed at La Ferté, and moved on Chateau-Thierry. Blucher, thus menaced, retreated by cross-roads up the Ourcq to Oulchy, for the Aisne, followed by the Marshals. Napoleon marched from Chateau-Thierry on Fismes—the Marshals from Oulchy on Soissons,—but were too late to intercept the enemy. Knowing, however, that Soissons was held by a French garrison, he hoped to overtake the Army of Silesia and bring it to action before it could bridge the Aisne. But the commandant of Soissons, threatened on the north bank by Bulow, who had just come from Laon, and on the south side by Winzingerode from Rheims, opened his gates. Blucher crossed the Aisne, barred the passage to Napoleon, and received the large reinforcements of Bulow and Winzingerode, who, meanwhile, had bridged the Aisne at Vailly. Chateau-Thierry to Fismes, 25. Blucher crosses the Aisne.

Thus the Army of Silesia had evaded the blow he hoped to inflict, and was stronger than before. But it was beyond the Aisne; it was separated from its proper line of Chalons; and was at a great distance from the Army of Bohemia. Barring the Aisne against Blucher, and descending on Schwartzenberg's rear by Rheims and Chalons, the situation was still advantageous. But Napoleon wished to inflict some decisive blow on Blucher, and resolved to cross the Aisne and attack him—55,000 against 90,000.

5*th March.*—Napoleon seized the bridge of Berry-au-Bac, and crossed Napoleon follows him.

there with Victor, Ney, and the Guard, leaving Marmont before Soissons, and sending a detachment to Rheims.

6th March.—Blucher, watching the enemy from the heights of Craonne (part of a line of high wooded country that extends from Soissons along the Lette to the Rheims-Laon road), resolved to move his army behind the Lette, across the road from Rheims to Laon, covering the movement with the Russian troops on the heights of Craonne.

Napoleon pushed out Victor and Ney towards the position of the Russians, and ineffectually assailed it.

Battle of Craonne.

7th March.—Napoleon, reinforcing the two Marshals with the Guard (Marmont still on the left bank), attacked the Russians, and after a very severe conflict they were ordered by Blucher to retire, in order to concentrate round Laon. The Allied garrison of Soissons was also withdrawn.

Soissons to Laon, 20.

8th March.—Napoleon moved across the heights to the Soissons-Laon road, sending Marmont from Berry-au-Bac on the direct road to Laon.

9th March.—Napoleon attacked Blucher round Laon. This town stands on a remarkable hill rising abruptly from the plain to a height of 100 yards, with steep sides, and having villages, or faubourgs, around its base. The position is extremely strong for defence. Napoleon sought to dislodge his enemy by directing his attacks on the space between the roads of Soissons and La Fére, while Marmont threw his right forward on that of Avesnes.

Battle of Laon.

In the night, Blucher, passing corps from right to left behind Laon, fell upon Marmont, and drove him, with the loss of his artillery, back through the hills on the Rheims road.

Napoleon retreats beyond the Aisne.

10th March.—Blucher's right attacked Napoleon. After hard fighting the French fell back on Soissons, Marmont taking post at Berry-au-Bac.

12th March.—Napoleon at Soissons having heard that the last of Blucher's corps from the Rhine (St Priest's) had just arrived at Rheims, ordered Marmont to leave a force to guard the passage at Berry-au-Bac and make a night-march with the rest of his corps on Rheims. Leaving a garrison in Soissons, he also marched thither himself.

Soissons to Rheims, 31.

13th March.—Napoleon and Marmont enveloped St Priest's corps, took several thousand, and dispersed the rest. Holding Soissons and Berry-au-Bac, he paused at Rheims till the 17th, to rest his troops and to organise his new levies.

Rheims to Chalons, 26.

Meanwhile Schwartzenberg, aware of his absence, had on the 27th February once more advanced, driving Mortier and Macdonald through Troyes to Nogent, Bray, and Montereau. The Army of Bohemia followed, and the heads of its columns occupied the opposite bank. Schwartzenberg pushes back the French right wing.

17*th March.*—Napoleon moved towards Schwartzenberg, Ney on Chalons, main body on Epernay. Napoleon from the Marne strikes at Schwartzenberg's rear.

Mortier was left at Rheims.
Marmont at Berry-au-Bac.

Schwartzenberg having passed the Seine had advanced to Provins.

18*th March.*—Napoleon from Epernay by Fére Champenoise.

Schwartzenberg hearing of his presence at Chalons had begun to retreat.

19*th March.*—Napoleon crossed the Aube, at Plancy, directing Ney, then on the march from Chalons, on Arcis. He called up Oudinot and Macdonald by Provins, Villenoxe, Anglure, along the right bank to Plancy. Thus, as soon as the movements were completed, with his centre and right wing united, he would be ready to move against Schwartzenberg's rear.

20*th March.*—Napoleon with the cavalry moved up the left bank to Arcis; and hearing from the cavalry advanced-guards that the Allied troops were moving between the Seine and Aube, he called Ney across, and sent the cavalry against them.

But Schwartzenberg, who had united his army about Troyes, was moving between the rivers with 90,000 men, and advanced upon Arcis. Napoleon was forced to fight with very inferior numbers, held his ground during the day, but fell back next day over the Aube. Battle of Arcis. Troyes to Arcis, 18.

He had long revolved a project for uniting his immediate forces with the garrisons of the frontier forces on the upper Marne, and pivoted on Metz, descending with a united army of above 100,000 on Schwartzenberg's rear, and finally uniting with the corps at Lyons for a great combined movement to drive the Allies beyond the Rhine. He had already, while operating on the Aisne, sent orders to the garrisons on the Belgian frontier, on the Meuse, in the Ardennes, and in the east of France, to sally out, unite, and move together upon the Marne; for he believed the corps left by the Allies to invest these places were too much weakened by the necessity of recruiting the main armies to be able to oppose the movement. The moment now seemed to have arrived for the execution Napoleon's new plan.

of this design. He marched on the 21st and 22d March from Arcis to Vitry, turned that place, which was held by a Prussian garrison, by a ford above it, and assembling his army there in expectation that Schwartzenberg would hastily retreat as before, he called Mortier and Marmont towards him. But those Marshals were no longer in a condition to join him.

Blucher moves on the Marne.

Marmont had held the Aisne against Blucher till the 18th March; when turned on both flanks he retreated to Fismes, and called Mortier to him from Rheims, thinking thus still to fulfil the double object of keeping up relations with Napoleon and covering Paris. Blucher then moved on Rheims and Epernay to regain his communications with the Grand Army. The Marshals then moved to the Marne at Chateau-Thierry.

Arcis to Epernay, 40.

Schwartzenberg crossed the Aube at Arcis after Napoleon; but he did not continue to retreat. Many circumstances proved that the political effect of occupying Paris would counterbalance any disasters that might happen to their line of communication. The Army of Bohemia, throwing forward its right from Arcis, met the left of Blucher extended from the Marne; and the combined armies, leaving a corps under Wittgenstein to cover their rear from Napoleon, spread across the space between the rivers and moved onward, crowding the two Marshals on the capital. A last fight ensued on the slopes around the city; and the capitulation of Paris was signed on the 29th March.

The Allies unite between the Aube and Marne,

and move on Paris.

Napoleon on the Marne, looking on this as a purely military event, was still resolute to disregard it and to carry out his plan; but the pressure exercised on him by his generals and by the voice of the nation was too strong to be resisted. Constrained to abandon his design, he turned towards Paris, hoping to arrive in time to prevent a catastrophe. Moving to the left bank of the Seine at Fontainebleau, he designed to fall from thence on the rear of the Allies and drive them through the capital; or, failing that, still to fall back behind the Loire and join with Soult, Suchet, and Augereau. But the exhaustion of the people, the army, and the generals, by his incessant wars, was too complete to admit of further effort. In the visions of ultimate success which still flattered his imagination, he found none to partake. Finding the impossibility of longer maintaining the struggle with officers weary of war, and a country impatient of his rule, he abdicated on the 6th April.

Result.

COMMENTS.

Since the main roads to Paris from the east crossed from bank to bank of the rivers, it was necessary for the invading armies to force the passages at the points of crossing. Thus we find the defenders disputing the bridges of Chalons and Trilport on the Marne—of Dolancourt, Dienville, and Lesmont on the Aube—of Troyes, Nogent, Bray, Montereau, on the Seine. These were certainly known beforehand as points for defence; and the fact that the advance of the assailants would be there checked for a certain time by an inferior force must be an important element in forming a plan of campaign.

Points of passage previously known.

If Blucher and Schwartzenberg had operated (as up to the beginning of February they seemed to intend) entirely on one of the great lines, they would not thereby have deprived Napoleon of the advantages of the converging rivers. For, had they selected the Aube and Seine for their line, he would none the less have used the upper Marne at Chalons and Vitry as a pivot from whence to fall on their communications towards Bar and Chaumont; and had they concentrated on the Marne, he would equally have threatened their rear from the Aube at Brienne or Arcis, and from the Seine at Nogent; in each case the river on which he pivoted forming a line of defence in case he should be defeated, upon which he could retreat, still threatening the enemy's flank, and from which he could manœuvre to cover Paris. Therefore, as the least of two evils, the assailants were obliged to operate by both lines.

Double line compulsory on the Allies.

This granted, the general plan of Napoleon is evident: to place a retarding wing on each river to dispute the known points of passage, and to join his main body to either, according to circumstances. It only remains to ascertain what circumstances should induce him to join either wing rather than the other, in order to have possession of the broad grounds on which to estimate the general plan of campaign.

General plan of the defence.

The invading army on each line must adopt one or other of two courses, —either to march in processional order with the principal mass of the army on the main road (as the Army of Silesia was moving on the 10th Feb.), or to send columns along many roads—forming, in fact, a line of columns (as the Army of Bohemia was moving between the 14th and 17th

Difference of advancing between, or beyond, the rivers.

Feb., and again in its last advance in March). In the first case the defender might (as he did) descend from the Seine perpendicularly on the flank of the column, separate its parts, and throw them asunder across the river; in the second case, the army must be either moving astride a river, in which case the part on the inner bank might be taken in flank and overwhelmed singly,—or it might be entirely *beyond* the river. In this last case its flank would be defended by the river, the bridges on which it would, of course, hold or destroy. Thus, Blucher having pushed the Marshals on to the Ourcq, had assembled his army on the right bank of the Marne, guarding the bridge of Trilport, and having broken that of La Ferté; the river consequently protected his flank from Napoleon advancing from Sezanne. And again in March, when Napoleon was at Rheims, Schwartzenberg, while attempting to pass at Nogent and Bray, held the bridges of the Aube up to Arcis, thereby protecting his flank.

Of all the various ways of operating for the defence, that of attacking the flank of the enemy's column is most effective, because, by separating and ruining his army, it reduces the odds in material force against the defender, besides recovering ground for him in the theatre; whereas, in the most successful move against the communications, though the assailants may be recalled from their forward positions, yet they may combine in superior numbers for battle, or, if the defender evades them, may renew their advance with undiminished forces. The defensive army being, then, divided into two wings, whose business it will be to retard the enemy on either line, and a main body, this central force will co-operate with one or the other wing generally, according to the following rules:—

General principles for the defence.

1st, Whenever possible, the main body should attack the *flank* of an enemy moving *between* the rivers, for which purpose it will pivot on a portion of one river held by one wing. In this case the main body cannot combine directly with the other defensive wing, which will be occupied in stemming the enemy's advance—like Mortier at Troyes, when Napoleon aimed at Blucher's flank at Brienne, and like Macdonald at Meaux, when Napoleon made his attack on Blucher's flank at Champaubert.

2d, To join the main body to a containing wing in order to oppose *in front* an enemy advancing to force a river, who does not, in doing so, expose a flank. Should the enemy seek to turn the defender by advancing

on both banks, the latter will have the opportunity of falling on a separate wing—always preferring to attack that which most directly covers the enemy's communications. Therefore,

Necessity of transverse communications.

To operate thus from side to side at need, the main body must have free and direct communications between the rivers; and in this campaign the transverse roads Joinville-Brienne, St Dizier-Brienne, Vitry-Brienne, Chalons-Arcis, Epernay-Nogent, Meaux-Melun, become of the highest importance—indeed, nothing can be effected without them.

In order to render the defence complete there should be direct communication with the objective along the *outer* bank of each river. In this the Marne was defective. For instance, had Napoleon been defeated in his first attack on Blucher at Brienne he must have retreated behind the Marne at Vitry and Chalons. But the only direct road from Chalons to Paris is on the left bank. Thus, to recover communications with Paris he must make the circuit by Rheims and Fismes, and the victorious enemy guarding the successive bridges of Chateau-Thierry, La Ferté, and Meaux, might reach the capital; whereas Arcis, Brienne, or Troyes formed better pivots, since, forced to retire over the river at either, he would still have direct communications with Paris.

From the previous deductions it follows that—

Courses improper for the defensive army.

1st, To make a circuit in order to join a wing and confront an enemy who, moving between the rivers, exposes a flank; or,

2d, To move against the flank of an enemy operating beyond the river, and covered by it; or,

3d, To stand to receive battle beyond a river, unless in an exceptionally favourable position; or,

4th, To cross a river to attack in front a superior enemy,—

Are all violations of the principles on which the defence should be conducted, sacrificing the advantages of the situation.

Napoleon's campaign estimated by these rules.

Judged by these rules, the campaign of Napoleon, while it shows how thoroughly he appreciated the situation, nevertheless displays many errors, the results either of over-confidence or of political exigencies.

His march from St Dizier on Brienne, his defence of Troyes against Schwartzenberg, his march to Champaubert, his descent on the rear of the Army of Bohemia from Chalons, and finally from Vitry, are all illustrations of the way in which rivers like these may be turned to account.

But the battles of La Rothière and Arcis, where he stood with inferior forces to fight on the wrong side of the river, were terrible errors, leading to heavy disasters, which a more vigorous foe might have rendered fatal. So were those of Craonne and Laon. All he gained to compensate the losses at Craonne was the abandonment of Soissons by the enemy, which would have been effected with equal certainty by an advance on the Laon road from Berry-au-Bac, threatening the enemy's communications. Soissons occupied by a French garrison, and that road to Paris from the Aisne secured, the former system of defence should have been reverted to. The Marshals should have been left to oppose Blucher on the Aisne and afterwards on the Marne, while Napoleon, with his main force undiminished by the losses of those severe battles, descended on Schwartzenberg. Blucher beyond the Aisne; the Marshals on its left bank communicating with the Emperor by Rheims; Napoleon with the main body at Chalons and Epernay; Schwartzenberg between Provins and Troyes, retarded by Macdonald and Oudinot: here would have been a situation as promising as any that could exist in the theatre; and it was one that did exist on the 17th March, and might have existed without fighting the costly battles beyond the Aisne.

Nor did he turn the situation to full account. It was pointed out in a former page that, in aiming at an enemy's communications, the stroke should be dealt so far to the rear that the enemy will not be able to evade it. Moving on Plancy, he found the Army of Bohemia beyond his reach. The battle of Arcis was completely injudicious and useless.

When at Montmirail, after the several defeats of Blucher, he had the option of falling on the flank of Schwartzenberg on the inner bank of the Seine, at Mormant and Nangis, by Sezanne. He sacrificed the advantage of the situation in making the circuit by Meaux to Guignes, which brought him on the enemy's front. No doubt the alarm of the people of Paris, and his precarious hold on the nation through the capital, furnished good political reason for interposing between it and the enemy; but, judged on military grounds, it was a mistake.

The peril incurred by an assailant in attempting a turning movement on one bank of a river while operating with the rest of the army on the other, is illustrated by the position of Colloredo's corps at Fontainebleau, which would have been irremediably separated from the others had the bridge

of Montereau not been defended by the Allies against more than one attack.

It appears to have been a mistake to send a force in pursuit of Sacken and York beyond the Marne at Chateau-Thierry. For not only did the pursuing troops not intercept the retreat, or prevent the reunion of Blucher's corps, but they were unable to perform their proper function of assisting to contain the Army of Silesia on the Marne; and it marched unopposed from Chalons to menace Napoleon's flank at Mery. That offensive movement of Blucher, so soon after his heavy defeats, was the most vigorous act performed by the Allies throughout the campaign.

Turned to full account, the defender in a campaign like this has not only the usual advantage of a combined against a double line of operation, but also the power of dealing his blows in the most decisive direction. In attacking Blucher from Nogent through Sezanne and Champaubert, Napoleon combined the advantages of causing him to form front to a flank, and of breaking his front, thereby gaining every point that was possible in favour of the inferior army. And the diversity of fronts he could operate on is exemplified in the different engagements. At Brienne he fought with his right flank towards Paris, his back to Vitry and St Dizier. At La Rothière and Troyes he covered the direct road to the capital. At Champaubert he had his left flank to Paris, his back to Sezanne and Nogent. At Montmirail he had turned half round towards Paris, still pivoted on Sezanne and Nogent. At Vauchamps his front was exactly reversed. And all the time the Allies were bound immovably, each to the line by which he had advanced.

Manœuvring powers of the defensive army.

Manifestly, then, the situation gives the defender greater advantages than any other that has yet been discussed. If the ordinary case of the single against the double line renders 80,000 a match for 100,000 (see page 177), this present case renders a superiority of more than five to four necessary in order to enable the assailant to prevail. In fact, remembering that whether he forces a passage or exposes a flank to attack he suffers in proportion, while the containing wing of the defender, strong in position and difficult to turn, suffers less than usual loss in retiring before superior forces, it is evident that, even with such odds at starting, he may, on advancing half-way to his object, find his numbers reduced to an equality with those of his adversary, when success should be impossible.

Advantages for the defence conferred by the rivers.

And it is easy to conceive that two allied armies might each be nearly equal to the whole force of the defenders, and yet, operating by independent lines, be defeated and foiled.

Case of the assailant considered.

Still there must be a mode of operating by which, a certain superiority being granted, the assailant may prevail. But the reader will best appreciate the difficulties of the assailants by trying to devise for them a plan of campaign, by which, without exposing a flank, or laying bare their communications, or either attacking a defended passage, or dividing to turn it, except with sufficiently superior forces, they shall continue to advance upon the capital.

Considering how this might be accomplished, let us still call the antagonists, Napoleon, Blucher, and Schwartzenberg, only supposing them equal in skill; and let us assume that the French army has its left wing in Chalons, closing Blucher's line, its right in Dolancourt, closing Schwartzenberg's line, and its main body at St Dizier.

As to cross the space between the rivers while the defender holds a point on the other river, from whence to strike the flank, is the peril chiefly to be dreaded; the first step, before the Army of Bohemia can cross from Chaumont to the Aube, is to dispossess the enemy of the points on the Marne, Chalons, Vitry, St Dizier, from which he may direct his blow. Now, were Blucher to advance directly on Chalons he would expose his communications to a blow from St Dizier. The first point to be aimed at, then, is St Dizier. And in order to direct both armies upon it without exposing them to be separately attacked, the preliminary to all offensive operations should be the establishment of a line of defence between Langres and Verdun, behind the obstacles that traverse that space, where the two Allied armies might form a common base of manœuvres. Guarding the flanks of this line with detached bodies, the central mass, composed of the main force of both armies, might be directed on the Marne, from Vitry to Joinville.

The French army might draw in both its wings upon the centre to defend the Marne, without thereby enabling the assailants to call up their detachments, for these must still continue to guard the flanks of the communications, which are not directly covered by the main armies. Therefore, at the outset the assailants, after making such detachments, should still be considerably superior to the total force of the enemy.

This superiority they should turn to account by mastering the course of the Marne down to Chalons. The end of these operations would probably find the French right wing on the Aube at Brienne and Dolancourt, the left wing retreating down the Marne; the main body would join the right wing for the defence of the Aube.

Assailants secure the Marne to Chalons,

Holding Chalons and Vitry with the right, the centre and left of the Allies would now cross from the upper Marne to the Aube, force that river, and push the defenders over the Seine at Troyes.

and throw forward their left to the Seine.

Now it is evident that, if the Allies continue to advance on this line, directly they cross the Seine, the Yonne comes into the system of defence. They must guard Sens and Pont-sur-Yonne on their left, while in front they approach Nogent, Bray, and Montereau, and must still hold passages on the Aube to cover their rear. If they force the bridges of the Seine down to Montereau and advance towards the Yères, they offer the flank of their widely-extended line to an attack based on the Marne, and their rear to an attack based on the Yonne. And, at the same time, they cannot advance along the Marne while Napoleon has the Seine for a pivot from which, by Sezanne, to descend on their flank.

Therefore, it will be better to halt between the Seine and Aube: occupying the passages of Troyes and Mery on the one side—of Anglure, Plancy, Arcis, on the other; the main body in the triangle, Mery-Arcis-Troyes, with detachments at Lesmont and Brienne.

Napoleon may either remain with his centre and right wing on the Seine: or, seeing in the position of the Allies a menace to his transverse line by Sezanne, may move thither his centre, calling up his left wing, for the moment useless on the Marne, and leaving his right on the Seine.

Assailants hold the Seine, and throw their right forward.

In the first case, the Allies, issuing from the passages of the Aube, will form front from Sezanne to Anglure, still guarding Mery and Troyes with their left; and will advance towards Villenoxe and Pont-sur-Seine. Either Napoleon will form front on the line Provins-Nogent to meet the attack, or will retreat to the Yères. If he stands to fight, the corps from Mery and Troyes must join in the attack on the bridges of Pont-sur-Seine and Nogent on the left bank.

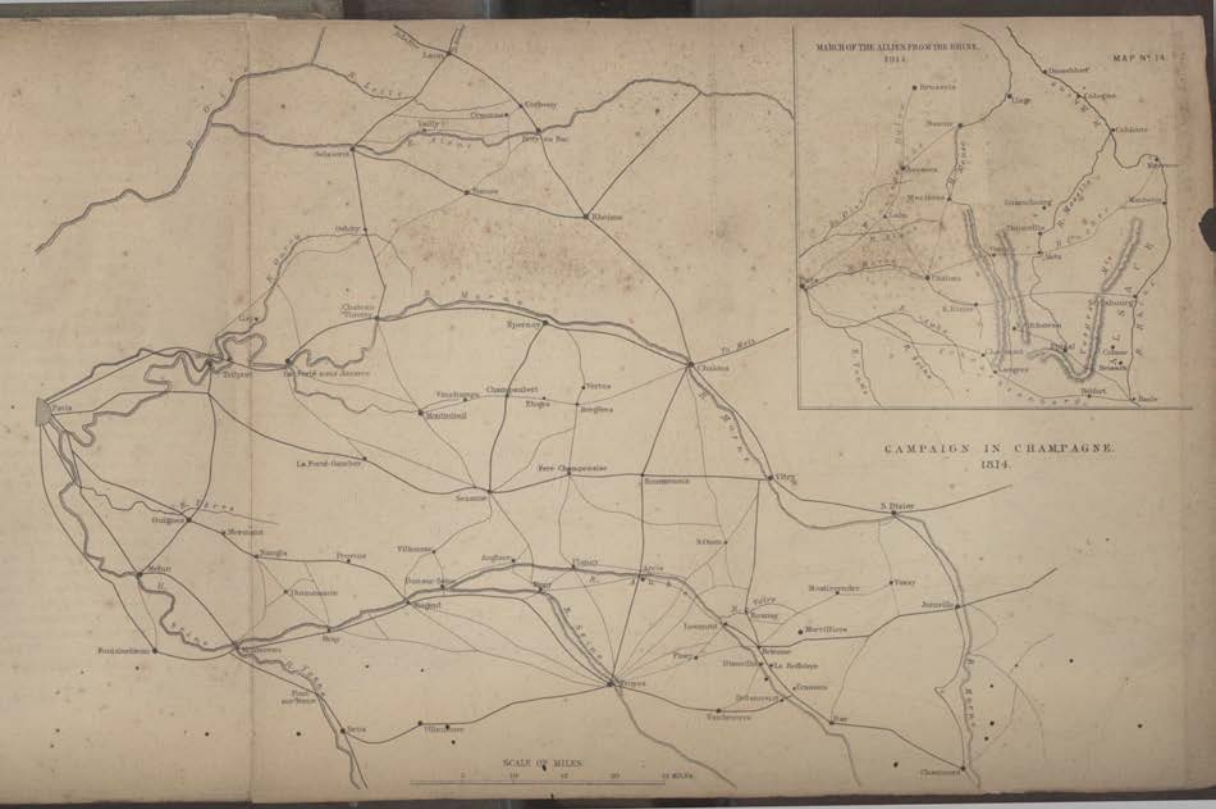
In case he takes post at Sezanne, the Allies from Anglure, Plancy, and Arcis will direct their columns thither—calling up the corps from Vitry, and directing that at Châlons to move to Bergéres, and thence, if

necessary, to join in the battle. Either Napoleon stands to fight with inferior forces, or retreats upon the Marne. In either case the Allies follow to the Marne, force him back on the Ourcq, and occupy Trilport and La Ferté-sous-Jouarre.

Either the French centre remains to hold, in conjunction with the left wing, the line of the Ourcq—in which case the decisive action is fought there while the Allied left and French right watch each other on the Seine —or the French centre joins the right by Guignes, to deal a blow against Blucher's communications with Chalons. In that case the Allies, leaving their right on the Ourcq and Marne, march through Sezanne, to fight the battle on the right bank of the Seine. Pushing the French right and centre to the Yères with their own centre and left, they fight then the decisive battle. It should be decisive, for the Allies on the two rivers, approaching each other in the narrowing angle, are now united, and can combine in a movement on Paris, holding the passages at Melun and Montereau on one side, at Meaux on the other.

In executing such a plan the weapons of the defender would in some measure be turned against himself; for each wing alternately of the assailants would stand on the defensive behind a river, while the centre, crossing between the rivers, would join the other wing, in order to make a step forward and deprive the defender of his most effective means of action. But being, as assailants, under the necessity of taking these forward steps, they do so at the disadvantage of always attacking a strongly-posted enemy under penalty of exposing a flank to him, and this course demands a superiority in numbers of certainly not less than 4 to 3, and probably greater than that.

It is of course difficult to draw a satisfactory programme of an imaginary campaign, but the main points of what has been just sketched form an intelligible plan. In the actual operations of the Allies there is no indication of any design other than that of advancing whenever they could, on either line, and retreating whenever their rear was threatened; and but for the peculiar tenure of Napoleon's power in France, and the losses and discouragement of his army in battles that should not have been fought, there seems no reason why on their plan of action they should ever have entered Paris. But by following the systematic method described, of throwing their weight judiciously from side to side of the


MARCH OF THE ALLIES FROM THE RHINE.
1814.
MAP Nº 14.
CAMPAIGN IN CHAMPAGNE.
1814.
SCALE OF MILES.

theatre, they might, without retrogression or defeat, have succeeded, with their superiority of numbers, in forcing their way to the capital.

Effect of a third convergent stream.

The effects of a third convergent stream, like the Aube, tributary to either of the others, and between them, and which is traversed by the line of operation, are—to multiply the known points of attack—to cause the assailant to disperse still more—and to oblige him (on whichever side of this intermediate stream he may operate) to expose a flank to the enemy on one of the other rivers. Thus, when the assailant's columns crossing the central river are divided by it, they are exposed to be attacked piecemeal and in flank. "The intermediate line of the Aube," said Napoleon, discussing the campaign, "materially increases the difficulties of the invaders, while it strengthens the defenders' means of resistance; for the enemy's forces divided between those rivers, sometimes from necessity and sometimes from choice, would present many opportunities of being attacked with advantage."

When, as in this theatre, a number of rivers converge like radii towards the objective, the assailant's policy evidently is to include as few of them as possible in his front of operations. Directly Schwartzenberg passes the Seine at Troyes, the Yonne, hitherto useless, is brought into the system of defence: and he is forced, as we have seen, for the guarding of his flanks, to disperse his forces so widely as to render them ineffective either for attack or defence against a concentrated enemy.

So various are the lessons conveyed by this campaign, that the reader who has mastered it must be competent to investigate almost any problem which strategy can offer. And he will doubtless be somewhat surprised to find how great is the importance of obstacles of the kind discussed in this chapter, for their influence is by no means obvious at first view.

This is a case where to assume the initiative, often so necessary and successful, is not an advantage—since it is the army which advances that offers opportunities to its adversary.

Effect of railways in this case.

Railways, which the retreating army would destroy, while it covered its own lines to the capital and the transverse lines connecting them, would, in conjunction with telegraphs, greatly increase the advantages of the defence by augmenting the power of rapidly throwing the main body towards either wing.

CHAPTER VI.

OF FORTRESSES.

Fortresses formerly gave great security to frontiers,

At the period when the system of making war was so far organised as to render armies extremely dependent on their bases, but while they were still unwieldy machines, not easily divided, and slow of movement, the establishment of great fortresses on frontiers liable to invasion, and on main roads leading from those frontiers to the capital, was an obvious expedient; for these slow-moving bodies could not venture to penetrate within a line of strong places, exposing to the sallies of powerful garrisons the long communications and cumbrous convoys which they did not possess sufficient mobility to defend by detached corps. Therefore that frontier was considered (justly, perhaps, according to the circumstances of the time) the strongest, on which strong places were most thickly set; and to besiege or to relieve a fortress was the business of a whole campaign.

but were costly defences.

But fortified places are great drains on the resources of a country. They are expensive to construct and expensive to maintain. A few of them will swallow up, for their necessary garrisons, armies that might turn the scale of a great war in the open field. Hence it was only necessary to show that invading armies could pass them, and, after victories in the field, could make of them an easy and certain prey, to render it apparent that a continuance of such a system of defence must be a costly blunder.

Perhaps the rudeness of vehicles and the badness of all but great roads may have combined with the cumbrous organisation of the armies of the last century to render them little capable of passing such fortresses

as lay in or near their path. But when roads and transport improved, and armies underwent the change already described, resulting from the condition of France after the Revolution, these mobilised machines, avoiding by a slight detour the fortified places in their way, leaving corps complete in their separate organisation to observe or blockade them, and rendering themselves to some extent independent of convoys by contributions raised within the enemy's frontier, marched upon those points of the theatre that were of greatest strategical importance, seized them, defeated and ruined the hostile armies, and then, at their leisure, reduced or demanded from the prostrate power the cession of the strongholds in which it had so vainly confided.

Modern armies have often disregarded them.

In June 1800 the Austrians held in Italy the fortified places of Genoa, Coni, Alessandria, Tortona, Arona, Piacenza, Ceva, Savona, besides the citadel of Milan, blockaded by the French: but the victory of Marengo gave all these to the conqueror. In 1806 the fortresses of the Elbe did not prevent Napoleon from penetrating to the Oder; and the capitulation of Magdeburg, Spandau, Stettin, Custrin, was almost simultaneous with the destruction of the Prussian armies. Again, Napoleon, driven out of Germany in 1813, left strong garrisons in fortresses on the Elbe and Oder. As the Allies advanced towards the Rhine, detached corps were left to invest these places; but, on their surrender, the garrisons were lost to Napoleon, while the investing corps marched to swell the Allied armies invading France. Nor did the triple line of fortresses that guarded the French frontiers of Belgium and the Rhine prevent Blucher and Schwartzenberg from marching upon Paris.

It was plain, then, that numerous bodies of 6000 to 12,000 each, or even stronger (25,000 French were left in Dresden), shut up in a line of fortresses, might be as utterly lost as if they were buried there, and quite ineffectual in a campaign which might have been decided by their presence in the field.

Yet the want of fortresses has often been severely felt.

But, on the other hand, it was equally plain that fortresses, properly distributed, might exercise a most potent influence. If France had too many, Germany had too few. Had strong places existed in 1809 on the Inn and the Traun, the defeat of Eckmuhl need not have been so rapidly followed by the capture of Vienna. "All that a great monarchy wants," says the Archduke Charles, "is time to develop its resources." And time

Austria would have gained had she possessed at Linz a fortress or intrenched camp commanding the passage of the Danube and the road to Vienna on both banks, difficult to invest, impossible to leave in the rear. And, in 1814, had Chalons, Troyes, Nogent, been fortresses capable of sustaining a siege, it is easy to imagine what difficulties they would have interposed in the way of the Allies, and what support they would have afforded to Napoleon. In our own day we have seen a small fortress change the aspect of a great war; for had Silistria failed to repel the Russian army, Turkey, not the Crimea, would have been the scene of the campaign.

Their uses.

Fortresses, then, though without armies they are unavailing, may give to a country defensive power that counterbalances the cost of their construction, armament, and equipment, and the deduction of their garrisons from the active force. And if, besides being impregnable to open assault, they contain within their defences everything necessary for the supply of armies, they may be used as temporary bases, or pivots, round which an army can operate with vastly increased power and latitude of manœuvring. Their value for this purpose will be immensely increased by forming round them an intrenched camp—that is, a line of continuous or detached works, placed at about 4000 yards from the enceinte, and thereby inclosing space sufficient for the assembling and manœuvring of an army. Assuming, then, that fortresses properly placed will confer advantages that vastly more than compensate for the extent to which they tax the resources of a state, it remains to determine the points on which they will be most fitly situated.

Selection of positions for fortresses.

The double object of giving security to fortresses, and of commanding through them points of strategical importance, will be best secured by placing them on natural obstacles, and at the junction of many great roads. If a mountain pass were guarded by an important place, it would be difficult to provision and supply the garrison; the issues would be easily blocked by a few troops; and an invading army might turn the place, masking the defiles with numbers less than the garrison, and its capitulation under the stress of the blockade would be a question of time only. Mountain summits, then, are unfit positions for fortresses, though small forts may be judiciously placed where they close a main pass, as at Bard; even so their influence may no longer remain undiminished, for

Mountains unsuitable.

when a mountain barrier is penetrated by a railway, forts closing passes at other points lose much of their importance. The Germans, in 1870, having possessed themselves of Saverne, were comparatively independent of the roads closed by Bitsch, and contented themselves with observing that hill-fort throughout the campaign. But situated on rivers, at points where the main communications cross, fortresses not only command both banks and open numerous opportunities for attacking the enemy that attempts to pass the obstacle, but are also difficult to invest, since the besieging army, in order to surround the place, must have bridges both above and below it, and will thus be doubly dependent on a kind of communication which floods and other casualties render especially precarious.

Best placed on rivers.

Fortresses on either bank of a river will sometimes command the passage, from the superior power of their heavy artillery; but great additional security may be given to the army issuing from them by placing them astride the stream, thus protecting the bridge from all risk of assault or cannonade; always provided that no ground commands the works within cannon-range. The same important end may be attained, where fortresses do not exist, by bridge-heads—that is, works demanding only very small garrisons, and armed with guns of such calibre as to keep field-artillery at a distance, while at the same time they afford all facility for the issuing, and formation on a large front, of troops that have passed the bridge. The fortifications should therefore be placed at some distance—half a mile or more—from the head of the bridge, and may consist either of a single enclosed work, if an isolated hill affords a site from whence it will command a sufficient space, as Mount Valerien commands the passages of the Seine; or (which will give far greater security to the passage) of several small detached works placed on an arc, heavily armed with artillery to keep the enemy's field-guns at a distance, each occupied by two or three companies, and flanked by the fire of a central work placed near the bridge, and completely protecting it from a night-attack. Thus, at the expense of one or two battalions and some heavy guns in the works, a passage may be secured against any partial attack. But in all cases it is essential that the utmost facility should be given for the issue of troops. This was amply proved at Marengo; for the Austrians had protected the passage of the Bormida by a bridge-head having only one issue: thus the whole Austrian army was forced to defile by it, and their left column,

Bridge-heads.

the action of which, to be effective, should have been simultaneous, was long delayed from taking part in the action, while the troops that passed first suffered enormously in making a front attack on the French.

It will sometimes happen that the banks of rivers are unfavourable to defences of this kind. At Donauwerth, for instance, a high hill, the extremity of a spur of the Alps, rises from the river on the left bank, close to the town. To cover the passage from an enemy approaching from the Maine, the work constructed to protect the bridge must be itself protected from an enemy who might gain the hill. Therefore the hill must be fortified; and as the works there could not be protected by fire from the right bank, which is flat, they must be strong enough to maintain themselves: hence a fortress on the hill is necessary to secure the passage at Donauwerth. But a great part of the course of large rivers, such as the Po, the Danube, and the Rhine, lies through wide flat valleys, where works protecting bridges, not being commanded, have full effect, and where they confer immense advantages on their possessors. At Dusseldorf, Cassel (opposite Mayence), Kehl, Brisach, and Huninguen, they gave a continual superiority to the French in the wars of the Revolution, giving them free issue to the German bank of the Rhine for the offensive, and affording certain refuge in defeat.

Especially important in flat valleys.

Placed thus astride of rivers which directly traverse the probable lines of operations of an enemy, fortresses, as the strongest kind of bridge-heads, may, according to their position, whether on the centre or extremity of the defensive line, give security to the front or the flank of the army that holds the obstacle. They force an enemy to be more cautious in his approach, and, by rendering him more solicitous to defend himself on his own bank while attempting to cross to the other, they deprive his operations of the vigour and decision in which lie his best hopes of success. Nevertheless, if a river be held strictly on the defensive, they do not, as has been repeatedly proved (twice on the Mincio,* and often on the Rhine), prevent an assailant from crossing. It may be questioned whether a short definite line like the Mincio would not be better defended by a single fortress astride of it at a central point, such as Ferri or Goito, rather than by one at each extremity; for a French army

Their effect when situated on direct obstacles.

* Now *thrice* on the Mincio, which the Italian army crossed in 1866, before their defeat at Custozza.

could not cross on both sides of such a fortress, since it would be voluntarily separating its front in the most unfavourable manner. It would therefore be limited to one or the other half of the river—that is to say, to a space of 12 or 13 miles. Should it cross the lower portion, the Austrians issuing from the fortress would force it to fight with its back to the Po; should it cross the upper part of the stream, it must fight with its back to the lake; and in both cases on a front parallel to its last line of communication with the base.

Their effect when on rivers parallel to the line of an enemy's operations.

To the reader of preceding chapters it will be quite unnecessary to expatiate on the advantages of placing fortresses astride of rivers which are parallel to the line of operation of an expected invader. Placed on such a river, at the confluence of another stream of which they also command the passage, they confer additional advantages on the army resting on them, besides being especially secure from attack, since a besieging army must be dependent on three sets of bridges during the investment, and if any of these were damaged by a flood or other accident, the whole force would be in jeopardy. And if, moreover, they are situated in parts of the theatre where the possible front of operations is greatly narrowed, they combine all the conditions of efficiency. Linz is an example, where the Austrians constructed, after the lessons of Napoleon's wars, an intrenched camp* commanding both banks of the Danube, with the roads to Vienna and Bohemia, and the passage of the Traun, and where the mountains of Salzburg on the one side, and the Danube on the other, narrow the practicable front of operations to the space from Linz to Lambach—about 25 miles.

Archduke's proposed system of fortresses for S.W. Germany.

See Map No. 7.

Discussing the features of South-Western Germany as a theatre of war, the Archduke selects the following points as most advantageous for fortresses, placing in the first rank those which require garrisons of 12,000 men and upwards; in the second, those whose garrisons are from 6000 to 12,000; in the third, those between 3000 and 6000.

Taking the Enns and the Moldau as the base, he proposes to fortify Enns (1st class).

* The works (32 towers) were considered to afford no protection against modern artillery, and have been suffered to fall to decay. The importance of the site renders it probable that new works will be constructed.

Prague (1st class).

Budweis (2d class), as an intermediate point of inferior importance.

Ratisbon (1st class).

Ulm (2d class).

Ingolstadt (3d class), to connect Ulm and Ratisbon, at the junction of many important roads.

Heilbronn (1st class).

Passage of the Neckar near Canstadt (3d class), to command the roads from the Rhine and Maine towards the Danube.

These he regards as the most important points; but for increased power of defence he would support these by other fortresses at

Klattau (3d class), as the most important point between Budweis and Ratisbon.

Passau (2d class), to connect the two banks of the Danube and cover the bridge of the Inn.

Ebersberg (a small fort), at the passage of the Traun.

Yet he says an enemy might leave on one side the fortresses of the Neckar and the Upper Danube, and descend in force straight on Ratisbon, separating Ulm, &c., from their base. In fact, the lesson of 1805 had taught the Archduke this possibility; therefore he would add to the system.

Wurzburg (2d class), closing the best roads from the Maine to the Danube. And, to complete the system,

Moldau-teyn (a bridge-head) being the only good passage between Prague and Budweis.

Steyer (a fort).

Amberg (2d class).

Landshut (3d class), securing the flanks of an army manœuvring round Ratisbon.

Moskirch (2d class), and

Miltenberg (3d class), as outworks of Ulm.

Jomini on the defence of France by fortresses.

Jomini, while pointing out the errors of the system on which France had been fortified in Louis XIV.'s time, when, on a third only of her total extent of frontier, forty fortresses had been constructed, yet considered that each face of her frontier as it existed before the war of 1870 (that of Belgium, or of the Rhine, for example) should have three fort-

resses in first line, three in second line, and a great place of arms between the second line and the capital.

Marmont on the same.

But Marshal Marmont, discussing the same question, considers that one great place on each frontier would suffice—for example, Lille for the Belgian frontier, Metz for that of the Ardennes, Strasbourg for that of the Rhine. But these should be something more than fortresses—they should contain sufficient material for a great army in artillery, firearms, provisions of all kinds, workshops, arsenals, hospitals; in fact, collecting all the raw material which naturally flows from the surrounding district into a great city, they should be capable of converting it, by means of a large population of artisans, and of extensive manufactories, into the material of war—of turning brass into cannon, iron into projectiles and rifles, wood into trains of waggons, wheat into biscuit, canvas into tents, &c. —so that an army might manœuvre round such a place either in its own or the enemy's country, secure of all the support which a near base can afford.

An open frontier best guarded by a few great fortresses.

When a frontier is unmarked by any natural obstacles, and has numerous issues, it is in vain to attempt to close it entirely with fortifications; for an enemy, masking one or two of the strong places, would penetrate the line, and still be superior to the defensive army in the field, deprived as it would be of many troops for the ineffective garrisons of the frontier. That the influence of fortresses extends only to a limited radius is seen from the fact that in 1815 Tournay and Mons had not the slightest effect on Napoleon when he was advancing by the line of Charleroi. But, on the other hand, Napoleon may have been mainly induced to select that line by the fact that Mons and Tournay were fortified, and that his fighting force would be diminished by the necessity of masking them, should he advance by the roads on which they stood. On the whole, it would seem that an open frontier will be best protected by a very few strong places, situated on the most direct lines to the capital, whereby an invader will be driven to make a great circuit, or to diminish his fighting force considerably, in order to pass them, while the garrisons drawn from the defensive army will thus be reduced to a minimum.

Importance of fortresses

If a frontier, naturally strong, have few issues, the strong places that guard them become of immense importance. In 1812 the French held

when the issues of a frontier are few.

Ciudad Rodrigo and Badajos; they thus closed the doors between Spain and Portugal, and the one fortress would afford a base to Marmont, the other to Soult, in offensive operations against Lisbon.

If, on the other hand, Wellington, masking Badajos, were to take the offensive against Soult in Andalucia, Marmont from Ciudad Rodrigo would in a moment recall him by threatening Lisbon; and Soult would in the same way, from Badajos, prevent an attack on Marmont.

The peculiar circumstances under which the French occupied Spain rendered it necessary that they should spread widely, in order at once to obtain subsistence and to keep down the hostile population. The scantiness of provisions generally reduced them to the defensive during the winter and early part of the year, till the harvest filled with grain their central depots of supply. At these seasons they could safely disperse their troops, to seek subsistence, so long as the two fortresses kept the English at bay. But Wellington, supplied from the sea, was more independent of the country; and, if he could capture the fortresses, he might take the offensive at a season when it was most inconvenient for the French to assemble in masses. Hence it was that the possession of these places was so important to either side, and that Wellington rightly considered it worth the risks and certain heavy losses of the famous attacks by storm.

On a frontier, then, with few issues, especially if these be distant from each other, fortresses will be especially valuable, by obstructing an invader till the defensive army can place itself on the line of intended invasion; and the best situations for them will be easily recognised. The interior range of strong places must be situated on points advantageous for defence, and strategically important. Lastly, the defence of the capital by fortifications is a measure of incalculable advantage. "The fortifications of Paris," says Marmont, "assure more powerfully the independence of France against the attacks of all Europe than the acquisition of many provinces, which would only so much the more extend the frontier." The student of the campaign of 1814 will perceive what vast additional power of manœuvring Napoleon would have gained had Paris been secure from assault. No longer recalled by the fears of the people, or by political exigencies, to interpose directly for its defence, all his strokes would have been delivered in the most decisive way; and the nearer the Allied

Importance of fortifying a capital.

armies approached the capital, the more imminent would be the risk they ran of a fatal disaster.

Though instances have occurred where, as at Silistria, frontier fortresses have, by resisting the besieger, baffled an invasion, yet the strictly defensive effect to be expected from these, as from natural obstacles, is only that of delaying the assailant, and thereby giving the generals in the field the opportunity of opposing combinations and enterprises which depended for success on swiftness of execution. But, as with rivers and mountain-ranges, the obstructing of the enemy is only a part, and not the most decisive part, of the influence which fortresses may be made to exercise on a campaign; and to turn them to full account a general must employ them as powerful aids for attacking the adversary at a disadvantage.

Fortresses chiefly useful to aid offensive operations.

Sites formerly eligible for fortresses are so, in many cases, no longer. The war of 1870 conclusively proved that, owing to the increased ranges of guns, places formerly deemed strong, such as Toul and Montmedy, are now easily commanded, and consequently untenable. For the same reason fortified towns, which were formerly safe from bombardment while their outworks were held, are now liable to destruction while the defences are still unbreached; of which Peronne, Thionville, and Mézières are examples. In these cases the surrender has always been compelled, in a very few days, by bombardment, after great destruction of property. It follows that, unless fortified towns are surrounded, at a considerable distance, by a girdle of forts on commanding ground, they are worse than useless; and that the only kinds of permanent fortresses which are admissible are intrenched camps, such as Metz should have been, and hill-forts closing important passes.

Many fortresses rendered untenable by modern artillery.

Fortified towns now liable to be reduced by bombardment.

A fortress astride of a river will very imperfectly fulfil its functions unless the stream is so thoroughly bridged within the works as to cease to exist there as an obstacle. There were two permanent bridges over the Moselle in the city of Metz, which, besides the railway bridge outside the walls, were at Bazaine's disposal. Yet he attributes his inability to transfer his army to the west bank on the 13th August 1870 to the destruction by floods of other trestle-bridges thrown for the occasion.

Fortresses over streams should include many bridges.

If these views be accepted, the principles on which a system of fortresses should be constructed are these:—

Principles on which a

system of fortresses or intrenched camps should be based.

1. The nature of the frontier must be considered—whether difficult of access and easily closed by small works, or open. If open, a large fortress and intrenched camp, at such a distance from the frontier as will admit of an army manœuvring in front of it, yet close enough to form a base for operations in the enemy's country, will be of great value. If, however, the frontier be a great river, the fortress may appropriately be situated *on* it.

2. When the distance between the frontier line and the capital is great, a second defensive line should be formed. It should consist of intrenched camps situated on possible great lines of operation, at such points as will combine the advantages of easy communication (by railway if possible) with each other and with the capital, of being at suitable intermediate distance between the capital and the frontier, and of offering facilities for defence.

3. The capital (or, if it be too near the frontier, some central place of importance) should be fortified.

In this way the most considerable frontier and line of invasion might be secured by two or three fortresses and intrenched camps, with a few inferior works to obstruct particular defiles or to secure passages of intercommunication; and the student will appreciate the value of these to the commander of the defensive army, in giving him the option of indirectly defending the capital by operating on the invader's flank, and forcing him either to diverge from his line or to divide his forces.

The student will find it an excellent exercise in strategy, and one taxing his acquirements, to take a map of any country—France, Spain, Prussia—and devise for it an efficient and economical system of fortresses, always remembering that these must be placed where they combine the conditions of security from attack with the command of those points in the theatre which are of chief strategical importance. For to place the fortresses in the most effective situations, he must know well the features of the country, and be able to recognise and deal with the many problems it may suggest, under various circumstances, as a possible theatre of war—problems such as it has been the object of this work to state and discuss.

CHAPTER VII.

THE CAMPAIGN OF METZ AND SEDAN CONSIDERED WITH REFERENCE TO THE FOREGOING CHAPTERS.

THE desire of France for an extension of her frontier, which had been justly ascribed to arrogance and ambition, became, after 1866, the expression of very reasonable apprehensions. Up to that year Prussia had been separated from her Rhenish provinces by an interval occupied with independent States, and her military power was not such as to render her, under the existing circumstances, formidable to France. But the campaign against Austria had changed all this. A great military monarchy, possessing an army no less formidable for organisation and discipline than numbers, was now at the door of the Empire, and the opening of the war attested how real was the peril which the new situation contained for France.

Delusive belief that France would take the initiative.

The circumstances under which war was declared seemed to indicate distinctly the course which the campaign would take at its commencement. From the demeanour of France, and her apparent determination to precipitate hostilities, it was justly and generally inferred that her plans were formed and her preparations made, and that she desired to keep the start she had gained on Prussia. Hence it was believed that she would at once enter on an offensive campaign. Within a week of the declaration of war (15th July), the world was already growing impatient to see her cross the Rhine, and was wondering at her delay; and expected to see her armies overrun Rhenish Prussia, or interpose between South Germany and the Northern Confederation, while the assemblement of the several Prussian corps was still incomplete.

The first miscalculation which became evident in the plans of France

was exposed by the unanimity with which the whole of the German States—Southern and Northern—threw in their fortunes with Prussia. Though this greatly augmented the force to be arrayed against France, yet it also offered to her a much more extensive frontier on which to choose her point of attack. No longer limited to the boundary which separates Rhenish Prussia from Lorraine, that of Rhenish Bavaria was now an enemy's territory; and, further, the course of the Rhine from Basle to the Lauter afforded opportunities for an advance based on Strasbourg and Metz. Thus South Germany might be singly overwhelmed, and a victorious aspect given to the first steps of the invasion. With this view it was intended to assemble 150,000 troops about Metz, 100,000 about Strasbourg, and 50,000 at Chalons; all that could be calculated on for immediate action. The enemy being by these dispositions kept in doubt of the intended point of attack, the Metz and Strasbourg armies were to unite rapidly for the passage of the Rhine opposite Carlsruhe, while the Chalons army was to move eastward for the protection of Lorraine.

First French project.

In accordance with this design the French corps were assembled thus:—

1st Corps.	35,000	inf.	3,500	cav.	108	guns.	M'Mahon.	Strasbourg.
2d ,,	26,000	,,	2,000	,,	90	,,	Frossard.	S. Avold.
3d ,,	35,000	,,	3,500	,,	108	,,	Bazaine.	Metz.
4th ,,	26,000	,,	2,000	,,	90	,,	Ladmirault.	Thionville.
5th ,,	26,000	,,	2,000	,,	90	,,	De Failly.	Bitsche.
6th ,,	35,000	,,	3,000	,,	108	,,	Canrobert.	Chalons.
7th ,,	26,000	,,	1,500	,,	90	,,	Douay.	Belfort.
Guard.	17,000	,,	3,000	,,	72	,,	Bourbaki.	Nancy.
	226,000	,,	20,500	,,	756	,,		
Reserve Cavalry,			6,000	,,				

One of the three divisions of the 7th Corps was in process of formation at Lyons till 12th August, and the others were below their proper strength.

The neutrality of Belgium and Luxembourg, respected throughout the campaign, was guaranteed by both parties; and the boundary by which France or Germany could be entered by the hostile armies was thereby rigidly defined.

French inaction.

As the days of July wore on without action on the part of the French, it became apparent that the Prussian assemblement (the time required for which might be calculated with approximate accuracy) would be accomplished before the French would be ready to move forward. It was soon no secret that the French preparations were incomplete in every

particular. Their battalions were deficient in men, their transport and cavalry in horses, their trains in material; provisions, ammunition, and stores, if existing in sufficient quantities,* were not easily available, and the railways of France did not readily lend themselves to a movement of concentration on the frontier. There are only four which, traversing the interior of France, approach the menaced boundary: those which issue by Thionville, Saarguemines (incomplete from Verdun to Metz), Strasbourg, and Belfort. French railways. Map 18.

The first German movements were made to meet the expected passage of the Rhine by the French. The German corps were directed towards the great fortresses on the Rhine, Coblentz, Mayence, and Mannheim. These places would stop the enemy advancing through the Rhenish provinces; and should they cross the upper Rhine, making towards either the Danube or the Mayne, the German armies pivoted on those fortresses would be in a position to operate against their flank. Thus the principle observed was not dispersion to guard all points, but concentration.

The forces which the Germans placed in motion were these:—

				Commander.	Home Locality.
First Army—Steinmetz.					
I. Corps.†	25,000 inf.	1,200 cav.	84 guns.	Manteufel.	East Prussian.
VII. ,,	25,000 ,,	1,200 ,,	84 ,,	Zastrow.	Westphalian.
VIII. ,,	25,000 ,,	1,200 ,,	90 ,,	Goeben.	Rhinelanders.
Res. Cav. and Art.		6,000 ,,	12 ,,		
Second Army—Prince Frederick Charles.					
Guard,	29,000 ,,	4,800 ,,	90 ,,	Duke of Wurtemberg.	
II.† Corps.	25,000 ,,	1,200 ,,	84 ,,	Fransecky.	Pomeranian.
III. ,,	25,000 ,,	1,200 ,,	84 ,,	Alvensleben II.	Brandenburg.
IV. ,,	25,000 ,,	1,200 ,,	84 ,,	Alvensleben I.	Saxon.
IX.† ,,	23,000 ,,	1,800 ,,	90 ,,	Manstein.	Schleswig.
X. ,,	25,000 ,,	1,200 ,,	84 ,,	Voigts-Rhetz.	Hanoverian.
XII. ,,	29,000 ,,	3,600 ,,	96 ,,	P. Albert of Saxony.	Saxon.
Res. Cav. and Art.		8,400 ,,	18 ,,		
Third Army—Crown Prince.					
V. Corps.	25,000 ,,	1,200 ,,	84 ,,	Kirchbach.	Posen.
VI.† ,,	25,000 ,,	1,200 ,,	84 ,,	Tümpling.	Silesian.
XI. ,,	25,000 ,,	1,200 ,,	84 ,,	Bose.	Hessian.
I. } ,,	58,000 ,,	5,800 ,,	192 ,,	Von der Tann.	Bavarian.
II. }				Hartmann.	

* It is said, probably with truth, that a sufficiency of these and of troops of the reserve existed; but that want of transport, and defects of organisation and direction, rendered them unavailing.

† Joined after the 6th August.

Division,	16,000 inf.	2,400 cav.	54 guns.	Obernitz.		Wurtemberg.
,,	10,600 ,,	1,800 ,,	54 ,,	Beyer.		Baden.
Res. Cav. and Art.		7,200 ,,	24 ,,			
	415,600 ,,	53,800 ,,	1,466 ,,			

German railways.

Nine lines of railway were at the disposal of the North and South German troops:—

Map 18.

Line 1. Berlin—Magdeburg—Cologne—Coblentz.
,, 2. Berlin—Cassel—Frankfort—Darmstadt—Mannheim.
,, 3. Dresden or Leipsic—Hanau—Frankfort—Mainz.
,, 4. Leipsic or Harburg—Kreiensen—Paderborn—Biebrich.
,, 5. Munster—Dusseldorf—Cologne—Düren—Call.
,, 6. Posen—Gorlitz—Leipsic—Wurzburg—Mainz—Landau.
,, 7. Augsburg—Ulm—Bruchsal.
,, 8. Nordlingen—Crailsheim—Meckesheim.
,, 9. Wurzburg—Mosbach—Heidelberg.

Of these 1, 2, 3, 4 were assigned to the Second Army, 5 to the First Army (VII. and VIII. Corps), 6 to the V. and VI. Corps, and 7, 8, 9 to the South German troops.

Owing to the Prussian organisation and military system, all the corps could be assembled simultaneously, each in its own district, complete in men, material, and munitions; parts of corps followed each other in succession towards the same points, till all were assembled entire, when their supplies were directed from the same districts on the same line—for in every military district of Germany the regular troops and the reserves form one united corps, complete in the three arms, directed by their own staff, and supplied from their own magazines. But in France the regular regiments were connected neither with particular localities, nor with the reserves which those localities supply; while the stores, instead of being definitely allotted, were collected in a few great depots. Thus it happened that while the French railways were scenes of disorder, obstruction, and false or purposeless movements, those of Germany were acting with the unity and certainty of full rivers flowing onward to the sea.

The German system, by which corps locally organised and complete were connected by distinct lines of railway with their own districts, thus rendering all Germany the source of supply, came into immediate contrast with the more primitive French system, by which troops from all parts of the Empire, and without previous association, were brought together, and supplied from fortresses converted into depots for the occasion. So

defective was the French system that the divisions of the army were at once separated for subsistence, and in the first marches their supplies and transport failed.

Under such different conditions, nothing but the previous concentration of troops and material on the Rhenish frontier could have sufficed to give France the advantage. And when it became apparent that the French corps were assembling slowly and with difficulty and confusion (with *what* difficulty and confusion the French official documents captured and published by the Prussians have since disclosed); that the want of transport and of provisions had begun to be felt before the organisation of corps was complete; that the railways were in all directions encumbered by trains moving in disorder or not moving at all,—it became apparent also that the advantage of the initiative would pass to the Prussians.

French movements:—

24*th July*.—A division of Frossard's corps had been pushed to Forbach, six miles from Saarbruck. A detachment found Saarbruck occupied by the Prussians.

German movements:—

Some Prussian cavalry crossed into French territory and blew up a viaduct of the railway east of Saarguemines, an incident illustrating at once German enterprise and French neglect, and important as proving the vulnerability of the great lateral communication of the French.

31*st July*.—Twenty Baden horsemen entered France at Lauterburg, pushed to Niederbronn, and cut the wires between Hagenau and Wissembourg.

Frontier lines between the armies.

As soon as there was no longer any chance that the French would advance through Rhenish Prussia unopposed, a main element in the problem of the campaign—namely, the configuration of the lines separating the hostile forces, and the consequent relations existing between their fronts—was ascertained. Those lines form a strongly-pronounced angle, the one side of which divides Rhenish Prussia and Bavaria from France; the other ascends the Rhine from the confluence of the Lauter to Basle. In the original French plan of campaign an army had been stationed about Strasbourg, threatening South Germany, and another about Metz, threatening Rhenish Prussia; and it had been intended that while the

Map 18.

attention of the enemy was thus distracted, and their forces divided to protect the menaced territories, the Strasbourg and the Metz armies should move convergently on the Rhine, and crossing it, as already said, separate the South German forces from those of the Northern Confederation. But now, in presence of the forces which the Germans were directing towards the northern face of the angle, it was felt that the Metz army was all too weak to oppose them; breaking in there, they might even cut the forces at Strasbourg from Paris. Wherefore, the Emperor, leaving the double frontier line of the Rhine and Vosges mainly to the protection of its fortified places, directed the corps of M'Mahon, and one division of Douay's corps at Belfort, down the Rhine valley to take post east of De Failly, who was at Bitsche, and thus continue the occupation of the menaced front.

Change in the French dispositions.

The chief military obstacle which opposes itself to the invasion of France from Germany is the line of the Vosges mountains. Leaving a gap between themselves and the Jura, in which lies the road from Basle by Vesoul and Chaumont to Paris (taken by Schwartzenburg's army in 1814), they run northward, nearly parallel to the Rhine, and, parted by a broad flat valley from the river, extend into Rhenish Bavaria, whence they subside into the plain at Mayence and Coblentz. In their southern portion they form a serious obstacle to the movement of troops, for the main roads are few and guarded. That from Mulhouse to Epinal is protected in flank by the fortifications and intrenched camp of Belfort. In front of that, from Colmar to Saint Dié, stands the fortress of Neu Brisach. Another road to Saint Dié is closed by the fortress of Schlestadt. Another by the pass of Schimek is guarded by Strasbourg. The greatest width of the Vosges is 42 miles, at Colmar. North of Schimek they decline rapidly in height, and are penetrated by the road from Strasbourg to Saarbourg, closed by the fort of Phalsbourg; that from Hagenau to the upper Saar guarded by the fort of La Petite Pierre; that from Hagenau by Ingweiler to Saarguemines, watched by the military post of Lichtenberg: that from Hagenau by Niederbronn to Saarguemines barred by Bitsche; while opposite another defile leading by Bitsche stands Wissembourg, fortified only by an old wall. About the sources of the Lauter the Vosges entirely lose their mountainous character, and become merely a hilly region.

Description of the Vosges.

Map 19.

German movements:—

1*st to* 3*d August.*—The VII. and VIII. Corps of the First Army (Westphalians and Rhinelanders), readily assembled on the Rhine, were moved from Cologne and Coblentz towards the Saar by Saarlouis. Coblentz to Saarbruck, 90.

The Second Army had come by rail from Pomerania, Brandenburg, Schleswig-Holstein, Hanover, and Saxony, to Frankfort, Darmstadt, and Mayence, and moved towards the frontier by the line of Kaiserslautern. Mayence to Kaiserslautern, 50.

The Third Army, from Posen, Silesia, Hesse, and South Germany, crossed the Rhine at Mannheim and Germersheim, and moved towards the Lauter by Neustadt and Landau. Germersheim to Wissembourg, 25.

French movements:— Saarlouis to Germersheim, 70.

Left:—The Guard was brought to Metz.

On the 2d, Frossard's corps marched to Saarbrucken, whence it drove a Prussian outpost. The town and environs were occupied as advanced posts, and the main body of the corps took position on the heights of Spichern west of the town.

Bazaine's corps had moved eastward from Metz to about Boulay, and Ladmirault's from Thionville towards Bouzonville.

Centre:—De Failly's main body was in and about Bitsche, with a brigade at Saarguemines.

Right:—M'Mahon moved a division from Hagenau to Wissembourg; one was already near Woerth; and the remaining two divisions of his corps were brought from Strasbourg by rail to join the other at Woerth for the defence of the Vosges. Bitsche to Woerth, 18.

Prussia having resolved to snatch the initiative from her unready antagonist, it became necessary to choose the line of attack.

That, of the two faces of the angular frontier, she should choose the boundary of the Rhenish provinces to advance from, was almost a necessity. For the primary object having been to guard these from the French, all the German forces had been moved in this direction; and they were now assembled, or assembling, in the space between that boundary and the Rhine from Cologne to Carlsruhe. And being thus on the side of the angle which was parallel to the French communications, they were, as explained in the chapter on the Configuration of Frontiers, in the most favourable position for offence. Choice of a line for the invasion of France.

It remained, therefore, to select the portion of the boundary of Rhenish Prussia and Bavaria from which to advance.

An advance of the *Right* from Rhenish Prussia would turn the line of the Vosges, and it would menace most decisively the French communications. But owing to the absence of railways, the Prussian concentration on this side was still incomplete. The corps already assembled there would, in advancing, encounter the mass of the front line of the French, and the second line at Metz and Nancy: the strong places Thionville and Metz, and the fort of Marsal, would be serious obstacles on that side when supporting large forces in the field; and in case of a reverse the Prussians might be cast back on neutral territory.

The Army of Prince Frederick Charles was opposite the *Centre* of this front, but so far from the frontier that no immediate effort could be made with it, though it was well posted to form second line to the First Army, or to defend that district from an advance of the French.

Reasons for operating by the Prussian left.

The *Left*, under the Crown Prince, was assembled in great force about Landau. The South German Corps had been easily concentrated on Carlsruhe, and those of Frankfort and Hesse, Posen and Silesia, on that and neighbouring points of the Rhine. Only the VI. Corps was still in rear. The greater part of the Third Army was therefore on, and near, the extremity of the French front, which at Wissembourg offered its flank to the enemy's attack. The nature of the country, hilly and wooded, afforded ample means for concealing a sudden advance from the French, whose intelligence was extremely meagre or delusive, and whose outpost duties were shamefully neglected. At this point, then, the whole weight of the Third Army might be brought to bear on a single division, supported at most by a single corps. No disastrous consequences need follow a repulse of the Prussians on this side; while a successful action, followed by the passage of the Vosges, would place the Third Army in rear of the French line, and force it to fall back under penalty of being hemmed in against the Belgian frontier, with the 1st and 2d Armies assailing it from the side of Rhenish Prussia; while the victorious Third Army, by gaining the Eastern Railway, would sever the communication between Paris and Strasbourg, would deprive the enemy of a main line of supply, and would gain the most direct and least protected line to the capital.

It was probably on such considerations—but mainly because he was readiest for a blow—that the Crown Prince was ordered to attack.

German Left takes the offensive.

4th August.—The corps of Ladmirault and Bazaine were spread by divisions along the frontier from the Saarlouis-Metz road to Saarguemines, extending about 35 miles, and their entire front from the Boulay-Saarlouis road on the left, to Wissembourg on the right, was about 80 miles.

Wissembourg to Woerth, 13.

The heads of the columns of the Third Army concentrated in an attack on Wissembourg, and drove out the French division, which retreated towards Woerth.

French Right concentrates for defence.

5th August.—M'Mahon took position for battle at Woerth. He covered there the railway from Bitsche to Strasbourg, and held the defile by which the enemy might turn the French strategical line, and strike at the Paris-Strasbourg railway.

A division of the 7th Corps from Belfort reached Hagenau by rail, and marched to join M'Mahon.

De Failly's corps was placed, by a telegraphic despatch from the Emperor, at M'Mahon's disposal, and he summoned it to join him in the position he had taken.

The Third Army was approaching the Sauer; its advanced-guards were on the east bank of that stream.

6th August.—De Failly failed to reinforce M'Mahon, except by the late despatch of one division, which reached him only in time to cover the retreat.

German Left defeats French Right.

Woerth to Saverne, 27.

The Third Army (except the VI. Corps and Prussian Reserve cavalry) attacked and defeated M'Mahon. The French Right, separated from the Centre by the course of the action, fled through Hagenau, and in part reached Strasbourg. The Centre and Left, through Niederbronn and Ingweiler, reached Saverne in great disorder. The Germans, misled by the line taken by De Failly's division, which retired towards Bitsche, did not immediately pursue M'Mahon in force.

German Right defeats French Centre.

S. Avold to Spicheren, 15.

Frossard, at Spicheren, was attacked by the leading divisions of the First Army, supported by part of the III. Corps. Defeated, his corps was, by the direction of the attack, forced to retire towards Saarguemines.

Bazaine's division at Saarguemines was withdrawn to join another at Puttelange.

The Guard was at Courcelles.

French movements :—

Saverne to Chalons, 175.

7th to 13th August.—M'Mahon retreated by Saverne, Saarburg, Luneville, Neufchateau, making for Chalons.

By the actions of the 6th, De Failly found a victorious enemy on each flank and retreated by La Petite Pierre, following M'Mahon at two marches in rear.

Metz to the frontier, 35.

The corps of Bazaine, Ladmirault, Frossard, and the Guard, with part of Canrobert's corps from Chalons and Paris, and one of De Failly's brigades which followed Bazaine from Saarguemines, assembled before Metz, numbering 122,000 infantry, 13,000 cavalry, and 540 guns. Bazaine took command of this army, which on the 12th was in position before the eastern forts of Metz. His instructions were to withdraw to the left bank for a retreat upon Verdun.

German movements :—

The First Army was advancing towards Metz, its leading divisions on the Nied.

Metz to Pont-à-Mousson, 19.

The Second Army moved towards Pont-à-Mousson.

Its cavalry had seized the passages of the Moselle between Metz and Frouard. Headquarters were established at Pont-à-Mousson.

The Third Army moved by Saverne upon Nancy, detaching the Baden division to besiege Strasbourg, and small bodies to attack Bitsche, Lichtenberg, La Petite Pierre, and Phalsbourg.

14th August.—The withdrawal of the French army to the western bank was already in progress, only a division of the 3d Corps remaining in position, when the advanced brigades of the First Army, supported by the nearest troops of the Second Army, attacked. The 4th Corps, then partly across the Moselle, was recalled to meet the enemy; and at the close of the action the 3d and 4th Corps remained between the eastern forts of Metz.

Pont-à-Mousson to Thiancourt, 13.

A division of Prussian cavalry was at Thiancourt—the advanced-guard of the X. Corps was between Thiancourt and Pont-à-Mousson.

The X. Corps at Pont-à-Mousson.

Pont-à-Mousson to Noveant, 10.

III., XII. } on the road to Pont-à-Mousson.

IX. Buchy.

Bouchy to Pont-à-Mousson, 13.

II. behind the IX.

Guard Dieulouard.

IV. Marbach, connecting the Second with the Third Army.

Main body of the Third Army was approaching Nancy. The advanced guard of the IV. Corps summoned Toul. Pont-à-Mousson to Toul, 20.

15*th August.*—The French Army resumed the march on Verdun, which had been interrupted by the German attack. Metz to Verdun, 40.

The 2d Corps was to march by Rezonville and Mars-la-Tour, followed by the 6th, the Guard, and the Reserve Artillery. Metz to Mars-la-Tour, 16.

The 3d and 4th Corps were to move by Jarny and Etain.

A division of Reserve Cavalry accompanied each column.

The Corps of the first column arrived near the destined points; but the 3d Corps only reached the plateau late at night—the 4th had not yet crossed the Moselle.

The retreat of the French being observed by the Germans, their next movement was made with the design of intercepting it.

The I. Corps remained before Metz.

VII. and VIII. moved to take up the line from Arry to Pommerieux, to cover the passage of the Moselle by the Second Army.

IX. and II. at first remained in position for the same purpose.

The remaining corps continued their march to the Moselle. The X. Corps continued the passage, and pushed its advanced-guard to Thiancourt. The remaining Cavalry Division and the III. Corps crossed by bridges thrown at Champey and Noveant, its artillery at Pont-à-Mousson, and during the night reached Gorze and Onville.

The advanced cavalry had continued to precede the movement towards the Metz-Verdun road.

The IX. Corps was directed to follow the III., and the XII. to follow the X.

16*th.*—The III. Corps, supported by the X. (coming up from the line Thiancourt-S. Hilaire), the VIII. (which crossed at Noveant when the battle began), and IX., with the two cavalry divisions, attacked Bazaine's army, which formed in the course of the engagement from Gravelotte to Mars-la-Tour, and drove his Centre and Right off the Metz-Vionville road. Noveant to Vionville, 7.

17*th.*—Three additional bridges were thrown over the Moselle at Corny. The VII. Corps crossed by them, and, resting its right on the Moselle, extended its outposts thence to Gravelotte. The VIII. Corps at Gorze observed the space from Gravelotte to Vionville. The IX. Corps took post south of the road from Gorze to Vionville. The XII. and the Guard marched on Mars-la-Tour.

The IV. Corps moved on Toul. The I. remained as before. II. to Pont-à-Mousson.

The French army swung back on its left, and took position from Jussy to Roncourt, facing nearly west.

18*th.*—The five corps of the Second Army and the VIII., all pivoting on the VII. (next the Moselle), advanced in echelon to the road from Gravelotte to Jarny. The French position being ascertained, the Second Army changed direction, advancing on the front from Malmaison to St Marie-aux-Chênes, the II. Corps moving from Pont-à-Mousson to support the right wing. Successively arriving opposite the French position they engaged throughout the front. A brigade of the I. Corps took part in the action from the heights on the east bank opposite Vaux.

The French army, outnumbered by more than two to one in men, and a great preponderance of artillery, and turned on its right, retreated at nightfall, when the long and severe battle of Gravelotte ended, within the forts of Metz.

German movements :—

19*th to* 25*th Aug.*—Seven corps formed the investment of Metz.

The remaining three were formed into a Fourth Army under the Crown Prince of Saxony, which moved westward from the Moselle on a front from Metz to Commercy, and made an unsuccessful attack on Verdun with the corps on its right, which, leaving a brigade to watch the place, passed the Meuse above and below it, the positions of the Army on the 25th being these :—

XII. Corps—Dombasle and Lempire.
Guard—Triaucourt.
IV. Corps—La Heycourt.
Headquarters—Fleury.

The Third Army continued its march towards Chalons, and on the 25th took Vitry with its advanced cavalry, its halting-places on that day being as follows :—

I. Bavarian—S. Mard.
II. Bavarian—Charmont.
V. Corps and Wurtemberg Division— } Heiltz.
XI. Corps—Heiltz-l'Evêque.
VI. Corps—Eclaron.
Headquarters—Revigny.

French movements :—

M'Mahon had united in the camp of Chalons the 1st Corps from Woerth, De Failly's from Bitsche, Douay's from Belfort, and the newly-formed 12th Corps, with two divisions of Reserve Cavalry, numbering in all about 120,000 infantry and cavalry.

Considering the position of Chalons untenable, he moved on the 21st to Rheims; and thence, urged by orders from Paris to attempt the relief of Bazaine, to Rethel, where he halted on the 25th. Camp of Chalons by Rheims to Rethel, 40.

26th to 28th Aug.—The German leaders became aware on the 25th of the direction of M'Mahon's march. The Third and Fourth Armies then heading west, in an echelon left in front as just described, thereupon wheeled to the right,—the Third, which became the rear of the new echelon, by S. Menehould and Suippe—the Fourth upon Dun, Buzancy, and Vouziers; the general design being that the Fourth Army should stop M'Mahon's march eastward, by holding the Meuse against him, while the Third Army intercepted his retreat on Vouziers. Vitry to Suippe, 30. Clermont to Buzancy, 24. Rethel to Mouzon, 35.

M'Mahon had marched from Rethel by Le Chêne to Stonne.

29th Aug.—M'Mahon moved to Raucourt, and the passage of the Meuse was begun at Mouzon.

30th Aug.—The Fourth Army drove the 5th French Corps through Beaumont on Mouzon. The 7th French Corps retired before the Third Army, which extended from Raucourt to Villemontry. Under the irresistible pressure of the German forces, the movement towards Bazaine was of necessity abandoned, and the whole army retired in disorder down the Meuse. The 1st and 5th Corps reached Sedan.

31st Aug.—The remaining French corps retired on Sedan.

The Fourth Army was at Mouzon, Mairy, Carignan.

The Third extended from Remilly to the Meuse west of Donchery, where a division crossed.

1st Sept.—The Fourth Army advanced towards Sedan on the east bank of the Meuse. Of the Third Army, the two Bavarian corps advanced on both banks on the left of the Fourth Army. The Wurtemberg division was at Donchery, and the V. and XI. Corps, crossing there, and approaching the right of the Fourth Army, completed the circle round Sedan. The battle that ensued ended in the surrender of the enclosed French army.

COMMENTS.

The angularity of the frontier line, so important at the outset, ceased, when the French front was driven back, to have any significance, for reasons stated in the chapter on the Configuration of Frontiers.

Problem of double against single line no further illustrated in 1866.

In the war of 1866, the Prussians had adopted the system of operating in distinct armies, by distinct but convergent lines, against a concentrated enemy, and their action was no further concerted than that they were both moving, with all practicable celerity, to effect a junction in Austrian territory. Whether their superiority of force in that campaign was sufficient of itself to counterbalance the objections to the double line, was never put to the proof, because the delays of the Austrians prevented them from resorting to the proper mode of action against a divided enemy—namely, to oppose a retarding force on the one side, and a preponderating force on the other, with mutual support and concerted action. No illustrations, therefore, of the problem of the double against the single line can be drawn from that campaign, except that pointed out in the note at the end of Chapter V., Part IV.

In 1870 a certain independence in the operations of the First and Second Armies on the one hand, and of the Third Army on the other, is recognisable. While the Crown Prince was passing the Vosges his communication with the other leaders could only have been by the telegraph lines in his rear; and he continued to move on a distinct line towards Chalons, while they advanced on Metz. It might therefore at first seem

Nor in 1870.

that the Germans were operating by a double line. But their base—namely, the Rhine from Coblentz to Germersheim—was common and continuous, and their main lines of advance were never more than from thirty to forty miles apart, so that their flanking troops and outposts must generally have been nearly within a march of each other. These conditions are evidently different from those, for instance, in which the Allied armies marched towards Paris in 1814. On the other hand, the French made no attempt to oppose division by concentration. With little more than half the force of their enemies they occupied numerous points of a line at least as greatly extended, and were thus likely to be

inferior at every possible point of attack. In the case of this campaign also, then, the strategical problem of the single against the double line receives no further elucidation.

With the disparity of force existing in this campaign, it must be doubtful whether the French, if in other respects more equal to their adversaries than they proved to be, could have successfully maintained a forward position. But had they been so well informed as they should have been of the intentions and movements of the enemy up to the 6th August, they might have contested the frontier line with very different results, even if at last compelled to retire by superior numbers. The unmeaning dispersion of their divisions, and the movements, fatiguing to the troops, and without result on the battle-fields, and therefore eminently false movements, which took place, were due to the facts, first, that they had intended an offensive campaign, for which they found themselves unready; and, secondly, that the Government feared the effect on the country of the withdrawal and abandonment of territory necessary for the defensive campaign which the circumstances dictated. Their course, if they were resolved to defend the frontier, seems clear. Nothing but superior concentration, in conjunction with a proper use of the topographical advantages for defence, could avail against numbers so disproportionate. A retarding force on one side of the theatre should have gained time for the action of an army capable of striking a blow on the other. Two circumstances pointed to the Crown Prince's line of advance as that on which the French retarding force should be placed: 1st, it lay through the most difficult and defensible country; 2d, the retreat might be conducted for some time without laying bare the communications of the co-operating army on the other line. At the same time, the necessity of covering the railways rendered it desirable that the retarding force should be strong enough to oppose the enemy's march all the way from the Lauter to the Sauer, without committing itself to a pitched battle. The two divisions of which the 7th corps at that time consisted, and one of the 5th corps, joined to his own corps, would have given M'Mahon the means of effective action of this kind, with a probable heavy balance of loss against the assailants. Meanwhile the 2d, 3d, 4th, 6th corps, Guard, and remainder of the 5th corps and the Reserve Cavalry, would have formed an army of nearly 160,000 infantry and 20,000 cavalry with which to fall on the heads of

How the French might have contested the frontier.

the columns of the First and Second Armies advancing on the Saar. Looking at the situation on the 6th, it seems impossible to doubt that their advance might have been roughly checked, and that the French, if compelled by superior numbers to fall back, would have retired with a very different aspect on the prepared line of the Moselle.

Cases illustrated by the war.

The remarks in Chap. I., Pt. II., on the advantage of assuming the offensive, could receive no more forcible confirmation than in the condition of the French armies during the retreat to the Moselle, disorganised and disheartened by the heavy defeats they had suffered in consequence of fighting pitched battles without concert or concentration.

That the line of lateral communication should be not coincident with, but in rear of, the front of the army, as asserted at p. 27, is confirmed by the case of the Saarguemines-Hagenau railway, which, rendered precarious from the outset by the German enterprises, was lost with the first partial defeats.

A case of separation resulting from the attempt to cover two distant and divergent objects is supplied by the result of the battle of Woerth. M'Mahon committed himself to a pitched battle in the endeavour to maintain his communication with the corps at Bitsche on the one hand, and to cover the Paris-Strasbourg railway on the other. Defeated, and driven on the railway, he never recovered his connection with the army with which he should have co-operated.

Before the event it would have seemed incredible that regular troops like those of M'Mahon, under a practised commander, should have been unable to pause or exert any influence for good in the theatre of war till an incessant retreat for nine days had carried them 200 miles from the scene of their defeat. With proper discipline and control, there was nothing in the events of the 6th August to prevent the united French forces from taking up the line of the Moselle, with their right across the railway at Frouard, where an intrenched camp and depot might have been formed. The attempt to force this line must have been a dubious enterprise; to turn it on either flank must have entailed the exposure of the communications of the turning force, or the separation of the turning and covering forces by the Moselle; in fact, those opportunities which able commanders should desire their adversaries to offer. The abandonment of such a line without a general action was proof of hopeless inferiority.

A new and striking instance of the retarding of an army by an inferior force during an operation (Chap. I., Pt. IV.) is supplied by the attack on Bazaine's rear at Borny on the 14th August, by the heads of the columns of the First Army, while the Second Army was moving to intercept his retreat. The previous delay in crossing the Moselle was rendered fatal by the action at Borny.

The German advance on Vionville is an example of forcing an adversary to form front to a flank. Bazaine's action in the battle was founded on a total misappreciation of the relation of a fortress to an army in the field. Instead of regarding it as a pivot of manœuvre to be relinquished when its relevancy ceased, he treated it as his actual base. If he had quitted his hold of it, and extended his right with the successive reinforcements to his line of battle, he would have succeeded in forming front across the left of the German attack, and the close of the battle would have left him astride the roads to the Meuse facing Metz. That the enemy should be between him and Metz, was of trifling import compared with their being between him and Verdun. His anxiety for his left was the anxiety of a temporising mind, which prefers postponement of a crisis to vigorous enterprise; and in clinging to Metz he acted like one who, when the ship is foundering, should lay hold of the anchor.

Considering the operations from the 16th to 18th August, with reference to Chap. VII., Pt. III., it is evident that, being executed within the radius of a single march, they fall in the class of those which are restricted to a small area, and in which intercepting movements can be directed almost with certainty. Part of the French army being still visible on the field of Borny on the 15th, it was to be expected that the heads of the German columns directed on Mars-la-Tour and S. Hilaire would intercept them on the 16th either on that road or the Jarny road. And though the Second Army on that day, as well as its adversary, formed front to a flank, yet it might do so the more confidently because of the position of the Third Army between Nancy and Bar-le-Duc. The support it would derive thence in case of a reverse, and its own strength, lent assurance to the movement.

The circumstances under which, on the 18th, it prolonged its movement against the enemy's communications by placing itself across them, remove it from the class of those which are described in that chapter as

entailing additional risk without corresponding advantage. For the great extension and consequent weakness of the front of the intercepting army, pointed at as so perilous, did not exist, both armies being on a front no larger than their order of battle required. This circumstance in conjunction with the great superiority of force, the strength of the wing next the Moselle, and the relative position of the Third Army, annulled the ordinary risk of the situation of the Second Army in an engagement on the left bank. A more doubtful question is the expediency of the attack of the 18th. The tactical advantages of the defence have been of late so greatly augmented that it is more than ever desirable to throw on an adversary the onus of making the attack. The interception of the French was complete, and they could only clear a road to Verdun by becoming the assailants. Attempting to move on Thionville, they would have been headed, or attacked in flank, on the march. As it was, the Germans attacked them, with heavy losses and doubtful issue, in a remarkably strong position. Although the result was to drive the French within their works, and to render the investment easier, yet the ensuing operations were so precarious, so protracted, and occupied a force so vast, that, taken in conjunction with the uncertain issue and certain losses of the attack, the precedent is by no means one to be unhesitatingly followed.

Looking to the French side of the situation, the course of the intercepted army was free from the additional difficulty which the necessity of assembling its fractions would have created. It was already united, and the only problem was the selection of the point at which to break through the enemy. It may be granted that, notwithstanding previous delays, and the possession of the passages of the Moselle by the Germans, the march, as planned for the 15th and 16th, offered reasonable assurance of bringing the army to the Meuse, not indeed unimpeded or unmolested, but without serious disaster. The force already available on the Vionville road might fairly be calculated on to repel the commencement of any possible attack, and the successive reinforcements of the French should have arrived faster on the decisive points of the field than those of the Germans. There was a possibility, even a fair probability, of redeeming the character of the retreat by not only gaining the Meuse, but gaining it after a successful engagement. The battle of the 16th deprived

the French of a line of retreat, but left their adversaries powerless, during the 17th, either to renew the attack or to make reconnaissances. The roads of Jarny and Briey were still open; two marches would take the Army to Verdun, and supplies of provisions and ammunition from that place might have met them on the road. On the other hand, it could scarcely be calculated on that the Germans, with their superiority, should be unable to resume active hostilities on that day; and to carry off such a host as Bazaine's by somewhat circuitous marches, on few roads, covered by no obstacle or defensive line, with a powerful and enterprising enemy on the flank of the lengthened columns, must always be an operation full of risk; and, finally, the Germans were in possession of a road to Verdun shorter than those by which the French would move, thus rendering the situation one in which (as said at p. 77) a catastrophe is only postponed by the existence of such lines of retreat in rear of an army in that position.

After saying so much, however, the facts remain that the German operations extended over a half circle, crossing as one of its radii a great river, and that the French army was concentrated on the chord. It was certain that the Germans could not be in condition to meet the concentrated attack on one and also on the other side of the river; either they must be in inadequate force on both sides, or must be concentrated on one at the expense of leaving the other unguarded. That in such cases the boldest course is the most likely to succeed, and what that course is, are points which have already been indicated in this work. Let us see, then, what would have been the chances in favour of an effort to break through by traversing the communications of the enemy.

That the 17th was a day on which the French were absolutely free to execute their designs without molestation, is shown by the fact that on the 18th the German Second Army advanced for hours in a wrong direction before discovering the French position.

French operation suggested.

We will suppose, then, that instead of taking up that position, Bazaine, seeing that great forces were engaged in intercepting him, had withdrawn his army into Metz, covered only by the division (of the 2d Corps) which was to form the garrison of the place, and extending it mainly on the side of Vaux as the nearest point of contact with the enemy; and that orders were given for the following dispositions:—

The Guard to pass the river by the nearest bridges,* and bivouac between Montigny-les-Metz and the railway, its cavalry division at its head.

The corps of the first line of battle, 3d and 2d (remaining two divisions of the latter) to cross the river by the southernmost bridges, and bivouac; the 3d Corps about Le Sablon across the Nancy road; the 2d in rear of it.

The corps of the second line, 4th and 6th, to pass by the northernmost bridges; 4th Corps to bivouac behind Fort Queuleu heading for the Strasbourg road; 6th in rear of it.

Three days' provisions and a supply of ammunition to be distributed to the troops during the passage through Metz, and in the bivouacs, thereby obviating one of the French commander's great difficulties—namely, to bring supplies of these from Metz to his army.

Orders for the 18th:—The cavalry and horse-artillery of the Guard, with a troop of mounted sappers, to move by Augny on Pont-à-Mousson, to observe the passage there, and if possible destroy the bridge. If attacked by superior forces, to retire on Cheminot and Selligny, destroying the bridges. One division of the Guard on Jouy; the other by Augny on Corny; to watch the bridges there, and if necessary dispute the repassage by the Germans. Each division, as soon as the rear of the army should be nearly abreast of it, to move off between the Moselle and Seille, either towards the rear of the army, or on the flank of a hostile corps, which might seek to recross by Pont-à-Mousson and Champey; according to circumstances.

The 3d Corps, followed by the second, to move on the Nancy and parallel roads, bivouacking south of the road from Cheminot to Buchy.

The 4th and 6th on the Strasbourg road, and parallel roads between it and the Nied, bivouacking from Solgne to Hans-sur-Nied.

The cavalry divisions of the 3d Corps and 4th Corps to precede their march and cover their front; that of the 2d to flank the march east of

* There are three permanent bridges—two in the city, one where the railway crosses; the latter was destroyed by the French on the 15th. Other temporary bridges had been made for the passage of the Army on the 13th, and might have been still available—while the river transport, and materials to be obtained on the spot, would have furnished the means of throwing many more. Although the avenues of the town did not offer the facilities which should be found in so important a place, it is assumed, therefore, that the supposed movement was not rendered impracticable by defective communications.

the Strasbourg road. (The cavalry division of the 6th Corps was at Chalons.)

The 3d and 2d Corps, with the cavalry of the Guard and of the 3d, to fall on any enemy forcing the repassage of the Moselle against the Guard, or to hold the line of the Seille according to circumstances.

The 4th and 6th to fall on the I. German corps, should it seek to molest the march.

Besides a proportion with the advanced-guards, strong detachments of sappers to march with the rear-guards, and with the columns on the outward flanks of the army, to obstruct the communications.

All bridges on the Seille to be destroyed by the rear-guards as soon as all the columns should have passed beyond them. All roads on both flanks forming communications between the enemy and his base to be damaged and obstructed to the utmost.

Beginning the march at 3½ to 4 A.M., at 8 the main French army would have its front from Pommerieux to Pontoi, its rear from Pouilly to Frontigny. The division of the Guard at Corny would be in position; that at Jouy would be preparing to conform to the general movement; cavalry of the Guard observing Champey and Pont-à-Mousson. Le Sablon to Pommerieux, 8.

On the German side we know that at that hour the Second Army was heading for the Jarny road, a long day's march from the nearest passages of the river; the corps of the First Army three and four hours' march from their bridges on the Moselle; the II. Corps across the Moselle, with its head many hours' march towards Gravelotte. Remembering that their order of march and general dispositions were arranged with the expectation of a battle between Metz and Verdun, the reader may calculate for himself the chances of their stopping the march of the French.

The IV. Corps was marching to Commercy on the Meuse, and crossed there on the 19th.

The Third Army was marching from the Moselle to the Meuse, no part of it being east of Toul at the end of its march on the 18th, except the VI. Corps, which was on the Moselle, about 20 miles south of Nancy. Consequently, neither the IV. Corps nor the Third Army could have hindered Bazaine's march.

Resuming the march, the French would have found themselves at the

Le Sablon to Cheminot, 13.

close of it with their right on the Seille at Cheminot, left at Hans-sur-Nied, having entirely traversed the German communications.

Fort Queuleu to Hans-sur-Nied, 15.

On the 19th Bazaine's cavalry would have been on the Nancy-Strasbourg railway, his army near Chateau-Salins, heading for Saarbourg. Enormous captures of trains would have been made, the roads broken up between the Moselle and the Nied on the communications of the First and Second Armies, and the railway on which the Third Army relied damaged.

See Jomini's remark at p. 122.

Besides the supplies captured, the French on passing the Nancy-Strasbourg railway would obtain others by requisition in an untouched district. Directing their march on Strasbourg, they would, by raising the siege, have imparted a victorious aspect to the movement, while the effect on the German armies may be imagined by students of military operations. It may be safely concluded that they would have been much more solicitous to restore their communications than to follow Bazaine.*

The promptitude with which the Germans proceeded to the investment of Metz shows that they were only giving effect to a foregone conclusion. Yet they had no precedent for so extraordinary an operation as the enclosure of such a fortress and such an army, and must have been inspired only by confidence in their estimate of the vastly-increased advantages of defence when they determined to maintain so extensive a line. It is a striking case of foreseeing and applying new conditions of war.

The enterprise of M'Mahon has been generally judged desperate, as being a flank march between a superior enemy and neutral territory. Its peril, however, consisted rather in the uncertainty of the issue, and the irremediable character of a failure, than in the difficulty of the march.

* The only evidence that such a movement was at any time contemplated by the leaders of the intercepted army, is contained in the opinion of General Bourbaki at a council of war in Metz, 26th August. "My most earnest desire," said the General, "is to clear a passage by Chateau-Salins, to gain space for ourselves;" and in a despatch of M'Mahon, 20th August, justifying his march on Reims, by saying, "If Bazaine breaks through by the north I shall be more ready to help him; if he breaks through by the south, it will be at such a distance that in no case could I be useful." During the investment of Metz, the Germans, to protect themselves from such an operation, fortified the position from Arry to Pommerieux; and the expediency of such an attempt is described in the German official account (Blume, p. 61). But the breaking of the investment at that point is a very different matter from the manœuvre supposed above, which, if successful, would have been infinitely more brilliant and decisive.

At the outset on the 19th he had seven clear days for a movement, the extent of which from the Chalons camp, first upon the front Rethel-Vouziers, and thence to Montmedy, did not exceed 70 miles. Had this been attempted with an assured aim, such as the attainment of a fresh base, or the junction with an army commanding a certain area, there would have been no more risk than has often been justified by the end. But in this case, besides the evasion of the First and Second Armies, success must depend on the breaking of the investment by Bazaine, on the junction with him, and on their joint victory over the Third and Fourth Armies before the First and Second could come up. Failing in either of these conditions, not only would the enterprise be abortive, but the army of Chalons would be itself on the verge of destruction.

The project was first entertained by M'Mahon on the assumption that Bazaine's army, moving northward from Metz, would be found at Montmedy, the point indicated in Bazaine's despatches of the 19th and 20th August as in his intended line of march. Moving to Reims, M'Mahon would rest on that railway on which he must mainly depend for supplies during the operation, would be on the flank of the Germans moving westward by the Chalons-Paris railway, and would preserve his own communications with the capital by the Reims-Soissons railway. Thus far, then, the movement, though circuitous, was yet, on the assumption that the operation was tentative, and contingent on Bazaine's co-operation, not without justification. The next step to the Aisne at Rethel and Vouziers, though circuitous, was undertaken with the same expectation; it still preserved his hold of the railway, and kept open his line of retreat by the valley of the Aisne, and there was still time (25th) for him to reach Montmedy unobstructed. But on the 27th the progress made had been throughout so slow, that M'Mahon, hearing nothing of Bazaine, and despairing of accomplishing his march in presence of an enemy which had already turned upon him, decided to retreat upon Mezières, the last point eastward whence he could be certain to find his communication with Paris still open. But here political motives prevailed to impel his army to destruction. The evil of a Government which rests its defective title on military power is not fully manifest till it has experienced reverses in war. It is then, when the nation should be united

against the common enemy, that factions tear it, and the necessity for conciliating them pushes military conduct aside.

The fatal consequences of a disaster being obvious in the case of a forward movement on this side, the student may consider the chances in favour of an attempt to traverse the other flank of the Third and Fourth armies, with which design Douay's Corps coming from Belfort might have halted at Chaumont (saving it much exhausting travel), the 12th Corps joining it there, and the troops from Chalons passing towards the same point by the roads between the Marne and Seine, and by rail through Paris; thence to be directed on the German communications at Nancy and Luneville. Having realised the situation, the student may with advantage further consider the effect on the immediate course of the campaign if M'Mahon, after Woerth, had retreated on Chaumont and Langres instead of on Chalons.

The predominance of the German armies, manifest from the outset, deprives the campaign of much of its value as a strategical study. Perhaps its main lesson is (like one of those derived from the Jena Campaign), that to execute a good general plan with promptitude, decision, and conduct, is of itself to establish an ascendancy over a less confident adversary, and to diminish the chances that he will take advantage of such opportunities as over-confidence may offer. That opportunities were offered cannot be denied. If it be a main object of strategy to be the strongest on the decisive points of collision, it seems to follow, that when armies, so superior in the aggregate to the enemy as the Germans were, expose themselves to engagements with a numerical inferiority on their side, there is so far evidence of strategical error. While the Crown Prince was bringing 150,000 men to bear on M'Mahon's force, and afterwards 160,000 on the discomfited remnants which were hurrying to Chalons, the First Army, when approaching the Saar, might have been attacked by superior forces; the attacks on Spicheren and Vionville were made with a numerical inferiority; and the forces employed in the interception of Bazaine, greatly superior on the actual field, were yet insufficient for the security of the operation. Nevertheless, in all these cases the motive was the excess of an invaluable quality—namely, promptitude to seek and resolution to engage the enemy. These instances proved, too, that the confidence in their own ascendancy, shown by the Germans

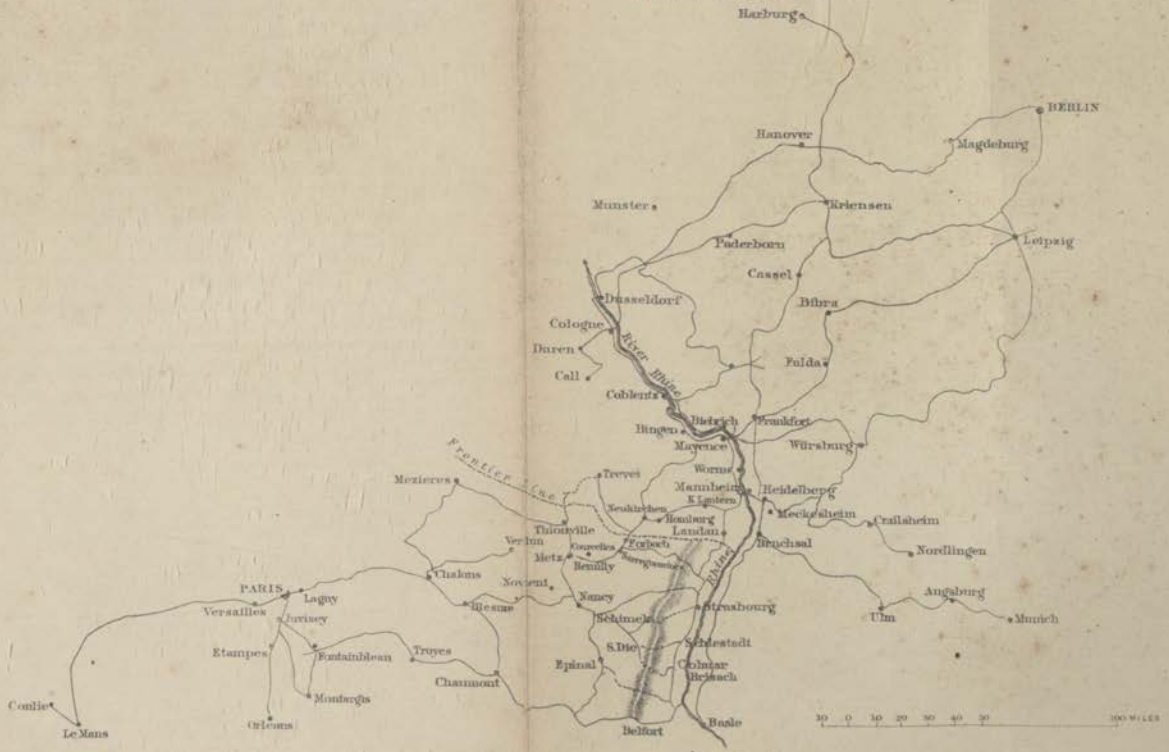
throughout the campaign, sprang, not from superiority of numbers, but from the excellence of discipline, training, and command which is the proper fruit of the Prussian military system. That system rests on, and confirms, what, before the war of 1866, was enunciated in the last paragraph of this book as the moral which its pages would convey. The Prussians seek the attainment of success in war not by confiding in traditions and in the timely appearance of an inspired leader, but as practical men set about a difficult and important task where the conditions of the problems to be solved are highly complex and always varying, and where the machinery to be employed requires the most careful preparation. Each of the indispensable parts which, when associated, constitute an army, has been the subject of their most patient consideration and prevision. The organisation and training of the fighting element has only been a part of their elaborate preparation for war. The strategical problems offered by the frontiers of States with which Prussia, with or without allies, might be at war, have been thoroughly investigated. The topographical features of her own and her neighbours' territories have been laid down with minute accuracy. The supply and transport of her armies have been provided for with such forethought, that not only were the lines of railway specified, but time-tables for the departure, transit, and arrival at its destination, of every corps employed in the war with France, were ready, long before the outbreak of hostilities, for transmission to the centres of organisation. The excellence of the German staff, and of the systems of organisation and supply, was conspicuously shown in the promptitude with which the Third and Fourth armies, heading west, turned on the 26th August northward on M'Mahon. The operation was, however, greatly simplified by the circumstance that they were echeloned left in front. To turn southward (as in the case supposed in the preceding paragraph) would have been much more difficult, as the lines of supply of the various corps would have crossed.

The new frontier line of eastern France is similar to that which existed before the war, in being salient and angular. But, if the original line proved disadvantageous for France, all her defects on that side are now greatly aggravated. The Germans will now collect their forces on the Moselle covered by Metz or Thionville, more securely than formerly on the Saar, and will be so much nearer both to Paris and to the con-

munications of Paris with the east of France. Unless she would exist only by the sufferance of Germany, France must fortify the line of the Meuse; and should further form an intrenched camp, with bridges connecting it on both sides of the Moselle, across the railway at Frouard, and with a bridge-head (should the ground permit) on the east bank of the Meurthe. As her army, while watching the issues of the Vosges, or intending to cross the Rhine, might be cut from a base westward of the Moselle by the descent of a German army from Metz, some point within the angle, near Epinal, for instance, should be selected at which to form an intrenched camp and arsenal. And it will probably (in view of the disastrous failure of the direct defence of Paris) be found expedient to prepare a base southward (at Dijon and Besançon, for instance) for armies which, operating thence, would indirectly defend the capital, by forcing the invader to form front parallel to his communications. In such a case Germany would enter on an offensive campaign with greatly diminished chances of rapid conquest. No longer threatening the communications of the French from Lorraine, she might find Southern Germany threatened with an invasion by Belfort; and, before advancing on Paris, she must, with the remainder of her forces, capture the intrenched camp of Frouard, mask that at Verdun, and beat back the French army southwards to its base.

RAILWAYS USED IN THE CAMPAIGN OF 1870.

Shewing the lines of Railway used by the French and Germans in 1870-71, and also the passes of the Vosges.



MAP 19
CAMPAIGN OF METZ & SEDAN 1870
FOR OPERATIONS ROUND METZ
METZ
LUXEMBOURG
RHEIMS
VERDUN
STENAY
MONTMEDY
LONGWY
THIONVILLE
PONT-A-MOUSSON
NANCY
TOUL
EPINAL
LUNEVILLE
SARREBOURG
SARREGUEMINES
SAARBRUCK
SAARGEMUND
FORBACH
METTENDORF
WEISSENBURG
LANDAU
HAGUENAU
STRASBOURG
CHALONS
Camp de Chalons
VITRY
BAR-le-Duc
COMMERCY
Pommern
Ardennes
Vosges
Moselle R.
Meuse R.
Saar R.
Rhine R.
Marne R.
Aisne R.
Sambre R.
Oise R.
Scale of Miles

PART VI.

TACTICS.

CHAPTER I.

GENERAL VIEW OF THE CHANGES THAT HAVE LED TO THE MODERN SYSTEM OF TACTICS.

If the operations in a theatre of war have undergone great and remarkable changes since the feudal times, no less radical and complete have been the alterations in the method of conducting the movements of armies on a field of battle.

When soldiers were armed with pikes and axes and shields, the best formation in which they could be arranged for action was that of deep columns. For if opposed by a thin extended line, the columns would by their momentum penetrate it, and make gaps through which the cavalry would pour to attack the enemy in rear. Again, the column, by approximating to a solid square, possessed the formation necessary to resist the charges of the men-at-arms. If suddenly assailed in flank, the column readily offered on that side an impenetrable face, and manœuvres to turn and outflank an enemy were accordingly little thought of. Even archers drawn up many ranks deep could still use their weapons with effect. The line of battle, then, was a line of dense columns—a formation easily

Deep columns suitable to medieval engagements.

assumed from the column of march; and requiring, as it did, but little practice or instruction, was best fitted to the motley bodies which the different knights led to the field. The engagement was almost always desultory in its character: here a column would advance victorious, there another of the same army would dissolve into a rabble, ridden down by the men-at-arms or maintaining partial conflicts; most of the field was broken up into a series of individual combats, and only the banners of the most famous or the most resolute and commanding knights still kept round them patches of array amid the general drift and fluctuation. At last, after a struggle generally bloody and protracted, advantage of ground, superiority of number, or of spirit, or of skill in arms, would decide the day. On one side renowned leaders, inspiring special confidence and attachment, would still lead orderly bands to the charge; on the other all would be hopeless confusion ending in general flight; and the victors would for the most part be too disorganised to pursue.

Extended fronts of formation necessary in modern battles.

A great change ensued of necessity upon the introduction of firearms; for as only two ranks can discharge their pieces, to form on any depth beyond that was to sacrifice so much of the fire of the line. At first only a part of the troops were armed with muskets, and the diminution in depth was only partial—the front line of battle still standing six deep. But when every man was a musketeer the line was extended in proportion—three ranks, however, being still considered necessary; the third, which could not fire, loading for the others, and being deemed to add to their stability—an idea which prevailed in Continental armies down to a recent period.

Armies of Marlborough's time incapable of rapid manœuvres.

To deploy into extended lines demanded more practice and precision in drill than to move in deep columns; but the training of armies did not keep pace with their requirements, and in the time of Marlborough and Eugene deployments were still effected but slowly, positions were deliberately taken up and fortified, and the opposing army with equal deliberation drew up and attacked in parallel order. There was little of what we call manœuvring; that is, the quick orderly change of highly-trained and flexible masses from one kind of formation to another, or their transference from point to point of a battle-field for purposes which might become suddenly feasible in the changing course of the action. Generals displayed their skill in choosing a position adapted to the num-

bers and composition of their army, and arranging the troops for its defence, and in detecting blots in the opposing line where the hostile leader had made a blunder in his dispositions, and directing thereon the decisive attacks. This was Marlborough's special gift. In the midst of the fight, when officers and men were heated in the *mêlée*, and ordinary generals, perplexed by the turmoil, could do little more than push their reinforcements into the fight, his clear calm vigilance detected a fatal blunder of arrangement, and his ready skill directed a heavy blow on the vulnerable spot. Thus, at Blenheim, the French in position had allowed Marlborough to draw up his forces deliberately and without molestation, though the difficulties of ground were such that Prince Eugene's wing of the Allied army was for many hours retarded in coming into line, during which the English general remained exposed to the possible attack of the full force of the enemy. At length the preparations of the Allies were completed, and they began the action; and while the French made good their ground at the villages, Marlborough observed how weak was their line of cavalry on the grassy plateaus between. Ceasing to push the futile and bloody attack on Blenheim, he sent cavalry, infantry, and guns over the small marshy stream of the Nebel at the unguarded points, and breaking through the thin line of horsemen, bore all that stood between his successful troops and the Danube back upon the bank of the deep river. And at Ramillies, seeing that one wing of the enemy was posted behind a marsh, where it was at once unassailable and unable to advance, he neglected it altogether, and, bringing the whole of his force against the remaining wing, won easily a decisive victory.

But it is evident that a great opening was afforded at this epoch for a general who should oppose to the armies of the time another army more elaborately trained, and therefore possessing superior swiftness, precision, and coherence. Such a machine fell ready made into the hands of one able and willing to use it. The character of Frederick William of Prussia, the father of Frederick the Great, is well known. Eccentric almost to insanity, one eccentricity which he indulged in throughout his life was a mania for drill. He was the great drill-sergeant of Europe. In his vocation he laboured so persistently, bringing to the task such rigidity of idea and purpose, such severity, so constant an interest, and a scrutiny so minute, that the result, attained indeed by the utter misery of the sol-

Origin of the Prussian military system.

diers, was the most perfect military machine then in existence. The creator of this had neither the opportunity nor the genius to use it himself, but his successor possessed both in ample measure. Crafty, resolute, patient, and sagacious, Frederick had long meditated how to turn to best account the weapon thus placed in his hand; but it was not till after many trials that he learnt the secret of its power. His first essays taught him only that it was, as a mere fighting instrument, admirable; time and thought, failures and successes, showed him how to treble its efficiency. Old in experience but still vigorous in manhood, he found himself at war with the three greatest military powers in Europe, and he had to solve the hard problem of making head at once against all, with forces inferior to either. He perceived that the secret of success must lie in turning to full and unexpected account that power of manœuvring which his father's system had imparted to the Prussian troops, and which had been perfected under his own direction in camps of instruction before the Seven Years' War. Urged by his impetuous spirit always to attack, he found in the Austrians an enemy always willing to await him. They carried the system of selecting and occupying strong positions to its very extreme. To its extreme, too, they carried the pedantry of war, embodied in their blind addiction to arbitrary rules and ancient precedents. Such a foe was, to a dexterous tactician and a highly-trained army, a very whetstone of skill. Moving round their slow inert masses, like a panther round an ox, he found the unguarded part, and cast himself on it with all his force. The secret of his success lay, not so much in judicious movements in the theatre of war, as in the use he made of the flexibility of his army as compared with the armies of his adversaries. It was by his successes in the fields of battle, rather than by his plans of campaign, which were often faulty, that he finally emerged victorious from the struggle, with a military renown unrivalled in his generation.

Frederick turns to account the manœuvring power of his army.

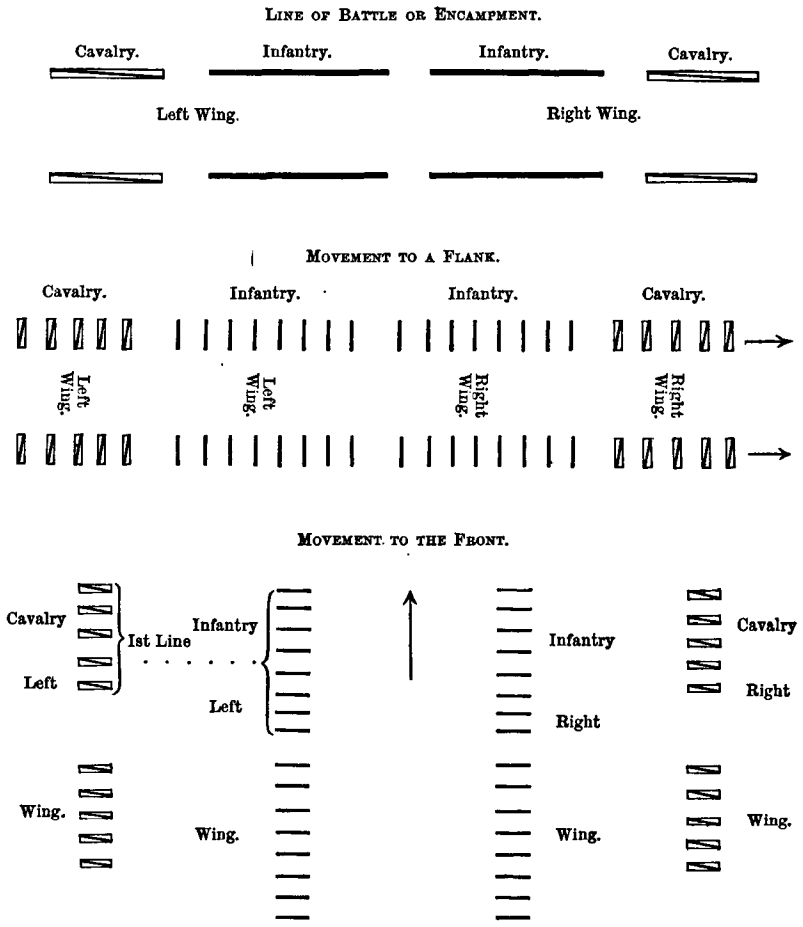
Granting that the superior steadiness and fighting qualities of his troops rendered them, line for line, on equal terms, more than a match for their enemy; and granting, also, that the manœuvring power of his army enabled it to form line for battle with unexampled rapidity, to deceive the enemy by feints, to fall on them before they could retrieve a false movement, or to retreat safely after a foiled attack; still, his most decisive successes

were due to this fact more than any other, that he frequently succeeded *in placing his line within striking distance obliquely across the extremity of his adversary's line.* For troops thus attacked and outflanked are exposed helplessly to ruin should they remain passive, while the formation of a new line facing the enemy is a work not only of time, but of great difficulty, when attempted under the stress of a vigorous and sustained attack. And as the object of all attempts to outflank an enemy is to obtain an advantage of this kind, and as the necessity of guarding against such enterprises forms a principal motive in tactics, it is expedient here to inquire further into the nature and effects of a movement which rings hostile lines into such relations with each other. But first it is necessary to consider briefly how the line of battle was in Frederick's time composed, and how his army was organised.

His great tactical stroke.

The Prussian army was not, like an army of the present day, an aggregate of corps, or divisions, or brigades, all capable of independent action—it was an aggregate of battalions; when assembled in the field the army was itself the integer, and any detachment was a fragment of the line of battle. It habitually camped and fought in two lines, each three ranks deep; the cavalry was on the flanks, and the army was divided, for convenience of manœuvring, into two wings of infantry and two of cavalry. When required to march, the order was simply to move by lines, if to a flank, when it advanced into two columns; or by wings, if to the front, when it advanced in four columns:—

Organisation and formation of the Prussian army.

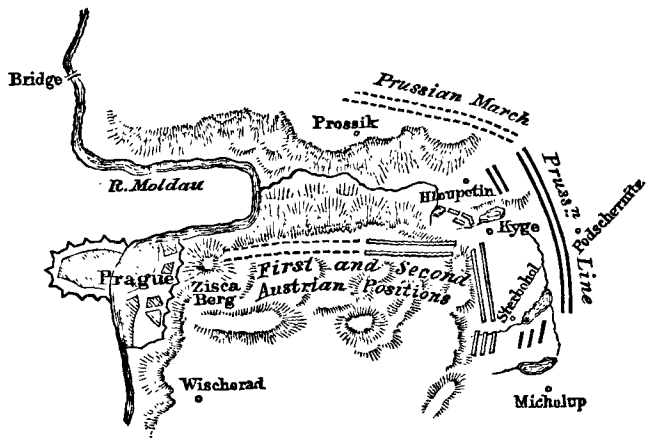


The perfect drill of the Prussian army enabled it alone, of the armies of the time, to move to a flank round the extremity of the enemy's line, marching perhaps two or three miles in this order, with such exactitude that it could at any time, by the simple simultaneous wheel of all the fractions, form complete order of battle and advance upon the enemy. The effect of the manœuvre is exemplified in the following action :—

BATTLE OF PRAGUE, 1757.

Case of outflanking an enemy.

When Browne fell back from the Eger before Frederick, and Konigseck from the pass of Reichenberg before Bevern and Schwerin, the Austrians united at Prague, on the right bank of the Moldau.



5th May.—Frederick threw a bridge and crossed that stream three miles below Prague, leaving Marshal Keith with 30,000 men to cover his communications with Saxony. At that time Schwerin and Bevern were across the Elbe at Brandeis; and the wings of the Prussian army united by preconcerted signal at Prossik. There were about 62,000 Prussians in presence of 65,000 Austrians on this field—not counting Keith's corps beyond the Moldau.

See page 231.

Hostile forces.

Description of the battle-field and Austrian position.

The right bank of the Moldau at Prague is very high and steep. On the hill there known as the Ziscaberg the Austrian left rested—thence their front stretched in two lines and a reserve along a plateau to Hloupetin and Kyge, four miles off; thence Konigseck's force was thrown back at an angle towards Michelup, and the angle was covered by a work armed with guns, and some battalions, at Hloupetin across the rivulet.

6th.—Looking from his equal ground at Prossik across the ravine that separated him from the Austrians, Frederick saw that their left and centre

were difficult to attack. The roads there were narrow and broken, the banks of the intervening rivulet marshy, the slope on the Austrian side steep and scarped, and covered with vines, the crest of the ridge partially occupied with field-works and well garnished with artillery. Schwerin, reconnoitring towards Podschernitz, reported that an attack against the right wing was practicable. The plateau, highest on the bank of the Moldau, slopes gently but constantly downward till it subsides in the hollow that forms the basin of the rivulet. A line of fish-ponds artificially formed in the course of the rivulet, and passable by narrow dykes, being overgrown with water-grasses, were mistaken by Schwerin for meadows.

Prussians march to a flank, and turn the Austrian right.

The reconnaissance finished, and an attack on the Austrian right decided on, the Prussians moved by lines in two columns to the left, round the Austrian right, their infantry and cavalry between Podschernitz and the fish-ponds, their artillery by the road through Podschernitz. The movement, begun at half-past seven, was so far completed by nine in the morning that the left wing stood in order of battle opposite the Austrian right.

As soon as the Austrian commander (Prince Charles of Lorraine had superseded Browne) perceived the movement, he brought the cavalry of the left wing to join that of the right near Sterbohol; and withdrew infantry from the left to prolong that face of the angle formed by the right wing.

Austrians form front to meet them.

When these reinforcements to the right wing arrived on their ground, they advanced beyond the original alignement; and the wing being ordered to dress by the right, the forward movement of its left flank left a gap of several hundred yards near Kyge.

The battle commenced with the advance of the battalions on Schwerin's left against Sterbohol, which they took, but were driven from immediately. The whole Prussian left wing now advanced on the Austrian right wing —some battalions defiling by the dykes, others wading across the fish-ponds. Several times repulsed, the second line, supporting the first, at last made good its footing beyond the fish-ponds.

The left wing of Prussian horse, passing at both ends of the last pond, had engaged the Austrian cavalry with varying fortune; till the Prussian squadrons of the right wing joining those of the left, they drove the

opposing body from the field southward up the Moldau, pursuing it to the bank of the river at Wischerad, and laying bare the right of the Austrian infantry.

Meanwhile the right wing of the Prussian infantry had attacked and carried the post at Hloupetin, and penetrated into the gap, which had been widened by the fluctuations of the action to more than half a mile. The whole of the Prussians now bore against the isolated right wing of the enemy, their artillery enfiladed it from Hloupetin, their cavalry threatened the right and rear, and it broke and fled southward after the horse.

Prussian army concentrated against Austrian right wing.

Not only was the left of the Austrian right wing laid bare and enfiladed by the capture of Hloupetin, but the right of their left wing was in a similar predicament. It now formed a succession of lines, fronting as the right wing had fronted, and always drifting rearward, till the advancing Prussians crowded it into Prague.

Austrians defeated in succession.

COMMENTS.

The natural movement (already performed by the Austrians in this example) of an army whose flank is turned, is to throw back that flank, as the inevitable first step to ward off a formidable disaster.

In the case of an action between very small forces, the turning of a flank might be comparatively unimportant. A battalion, for instance, could change front to meet an attack in a very few minutes; a brigade of three battalions might effect the operation without such delay or loss as to entail ruin. But in case of the advance of a formidable line, supported by cavalry and artillery, and calling for the change of front of 10,000 or 20,000 troops of all arms, covering miles of ground, to meet the attack, the matter is more serious. The troops nearest the point of attack must necessarily face about and move rearward, exposed all the time to the enfilading fire of artillery, perhaps also to the fire of infantry and the charges of cavalry. Under such circumstances, unless the ground is very favourable to the formation of a new front, and the troops are exceptionally steady, a whole army may fall into disorder and wreck.

Effect of a considerable turning movement.

In the present case, however, the Austrians, noting the direction of

Schwerin's approach from the Elbe, and taking advantage of the cover of the fish-ponds, had already accomplished this operation of throwing back a flank so as to face the enemy on that side. They met the attack, therefore, under circumstances unusually favourable. Yet the disadvantages of the formation on a salient angle, as exemplified in this battle, are still of the most formidable character; for instance,

Consequences of throwing back a flank.

1. The whole force of the assailant may be brought to bear on one face of the angle.
2. The advance of either face causes a gap at the angle.
3. The face assailed will then be liable to be turned on both flanks.
4. The fire of the assailant's artillery enfilades one or both faces.
5. The defeat of the assailed wing compromises the retreat of the other, supposing the original front of the army to have covered its proper rear.

Add to this that the troops at the angle, exposed to a cross-fire, must crowd on each other in falling back, and so create a weak point in that decisive part of the line; and we see that the turning of a flank by a considerable part of the assailant's line advancing in order of battle is, in general, the prelude to a very decisive victory, and is to be guarded against by every possible precaution.

The French attempt to turn Frederick's weapon against himself.

Perceiving the value of an advantage of this kind, the French army, in the same campaign, sought to turn the lesson against its great expositor, in the following instance.

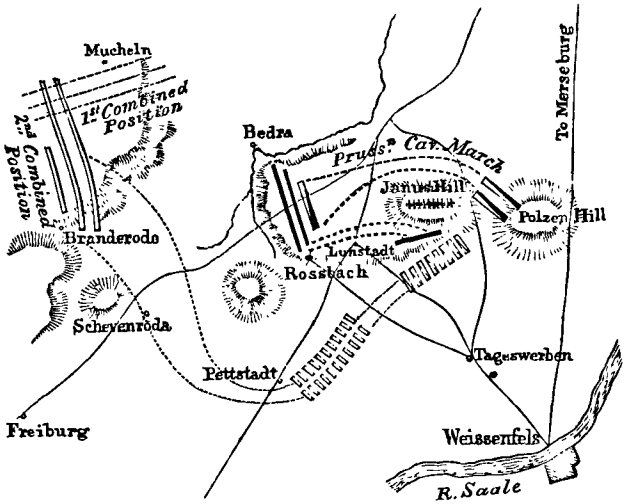
BATTLE OF ROSSBACH, 1757.

In November of this year, Frederick, leaving a force to face the Austrians eastward of the Elbe, had marched across Saxony to meet the combined French and German army, commanded by Soubise, then approaching the Saale.

1*st November.*—The Prussians from Leipsic advanced to the Saale at Weissenfels, Merseburg, and Halle, where the French destroyed the bridges, and, falling back, united at Mücheln, numbering in all 50,000, on the 2d November.

3*d Nov.*—Frederick's columns from the Saale unite at Bedra, about three miles from Soubise's position. The King reconnoitred the enemy,

and finding the direction of their line such as to present and expose their flank, prepared to attack it next day.



4th Nov.—Advancing before day, by moonlight, he discovered that they had shifted their position, and now stood left at Mücheln, right at Branderode, strong on the flanks, and with their front well covered. Judging them too formidable to attack with his numbers (22,000), he fell back to the heights in his rear, left on Rossbach, right on Bedra, intending to await the movements of the enemy, who would, as he expected, be obliged by want of provisions to retreat to a point nearer to his supplies. Hostile forces and positions.

5th Nov.—The ground between the Saale and the French position is a sandy barren plain, devoid of obstacles, highest at and behind Frederick's position, and descending thence by gentle rounded slopes to the level of the river-bank. The French generals, confident in their own superiority, imagining Frederick's army, part of which only they could see, to be weaker than it was, and construing his retreat of the previous day into a confession of inability to encounter them, resolved to march round his left and intercept his retreat to the Saale. French march to a flank.

About eight in the morning, the Combined army, forming columns of lines to its right, began to move towards Schevenroda; a body of troops, chiefly horse, under St Germain, advancing towards Frederick's left, and

making demonstrations of attack, and opening a distant cannonade to cover the general movement. As they had a magazine at Freiburg, the King, thinking they might be moving thither, remained to await the development of their design, merely ordering his cavalry to mount, and his infantry to be ready for immediate movement.

Moving in the hollow of the plain, the Combined columns, passing Schevenroda, were directed on Pettstadt. At the head of the columns (three in number, two lines and a reserve) marched the German horse; next, the German and French infantry; lastly, the French cavalry.

Before passing his left flank the enemy halted, and the French cavalry moved to join the other wing of horse (in all 7000) at the head of the columns. An hour afterwards he perceived that they, then past his flank, were heading towards Merseberg, and their project of cutting him from the Saale was no longer doubtful.

Prussians form across the French line of march.

The King thereupon ordered Seidlitz to move with all the cavalry (4000), covered by the rising ground, across the head of the Combined columns; while the infantry, forming columns to its left, and then wheeling to the left by divisions, followed at its best pace in the same direction. Only a body of light-horse under Meyer was left at Rossbach.

The enemy, catching glimpses of troops rapidly moving towards the river, imagined the King to be retreating on Merseburg. They therefore pushed forward their cavalry in all haste far in advance of the infantry, in hopes of attacking his rear-guard, and forcing him to an action.

Reaching the reverse slope of the Polzen mound which screened him, Seidlitz found that he had anticipated the enemy, whose columns were then just beginning to ascend the other side of the slope. Forming line, he at once attacked and enveloped the head of the column, which, unable to form line, was, by repeated charges, dispersed in half an hour, and driven towards Freiburg. The Prussian cavalry then rallied, and reformed about Tageswerben, in a hollow of the plain.

During the cavalry engagement the Prussian artillery had brought twenty-two guns into action on the crest of the low mound called the Janus Hill; and the infantry division which had originally formed the left of the Prussians at Rossbach—seven battalions in number—began to issue through Lundstadt, forming as they arrived on the left flank of the

Combined infantry. The enemy now attempted to form front, and to extend beyond the Prussian flank; but, enfiladed by the guns, the head of each attempted formation swept away by the Prussian fire, and the rear assailed by Seidlitz, the whole army gave way and fled in confusion, sweeping St Germain's force (which was at the same time broken by Meyer from Rossbach) with them, losing 3000 killed and wounded, and leaving 5000 prisoners and 70 guns in the hands of the victors. The Prussians lost less than 600 men.

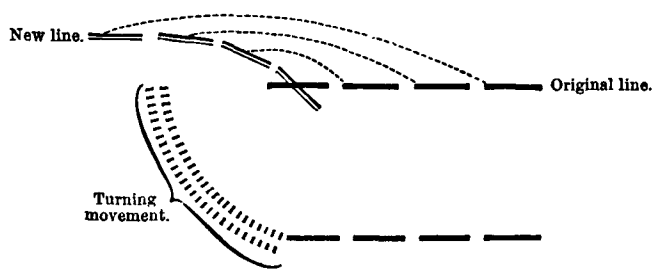
French defeated in succession.

COMMENTS.

The reader will see that an army moving to outflank another, which finds that other drawn across its path, is itself outflanked. And since the army that attempts to turn the flank of another, to which it stood originally parallel, by passing round it, out of range of its artillery, is moving on an arc of which the antagonist commands the chord, it follows that, in ordinary circumstances, and with the same conditions of ground, such an enterprise will be not only futile but disastrous. In general, the way to meet it will be to change front with the threatened wing; and, disengaging the remainder of the line, move it behind that wing into the prolongation of the new alignement.

Dangers of the attempt to outflank.

Way of meeting it.



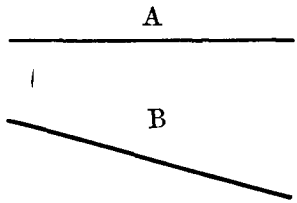
That an open turning manœuvre may succeed against inferior troops and generals, has, however, been often proved; and the commander of a disciplined force opposed to barbarous troops—a British leader, for instance, acting against a native army in India—would be justified by the superior manœuvring power of his force (enabling it to defend itself at any

Attempt may be judicious against inferior troops.

stage of the operation, to outmarch its enemy, or to return on its path without disorder) in attempting openly to turn the flank of his enemy.

Mistake of those who deride the oblique order.

Some writers assuming that by the oblique movement one line is merely brought to bear obliquely on the other, have derided it as a visionary advantage, pointing out that the obliquity of the two lines is reciprocal, thus,



and that A's relation to B remains unchanged. Their mistake is in not perceiving that the one line, besides being oblique to the other, *must also outflank it.* Produce the line B beyond the extremity of A, and the nature of the situation is evident to the reader of the two actions just described.

Again, it has been triumphantly asserted that Napoleon himself pronounced the oblique order of attack to be a fantasy. If he did, he denied the plain facts of several of Frederick's most celebrated and decisive battles. But what Napoleon probably did say is, that an attempt openly to practise the oblique outflanking movement against the skilful leader of a well-trained army, ought, for the reasons just given, to be turned to the disadvantage of the assailant.

Prussian system becomes general in Europe.

Perceiving all the advantages of the Prussian system of drill and discipline, the other powers of Europe adopted it; and every civilised army is still strongly imbued with the spirit and the method which Frederick William so diligently imparted to his troops in the parades of Potsdam. As in other cases, the form has been taken for the essence, maxims and traditions have been rigidly adhered to long after they ceased to be applicable, and the pedantic spirit which blindly confides in them, and condemns all innovations, is by no means yet extinct among soldiers.

The next great changes in tactics took place, along with so many other changes, in the French Revolution. One was in organisation. Brigades

and divisions already existed in armies; but they were fractions of the line, consisting of a number of battalions united under one general for convenience of command only. In the great war which revolutionary France maintained all along her extensive frontier, numerous small bodies, separated by many miles of space, often acted with a certain independence of each other, though directed by one commander-in-chief—indeed, the nature of the theatre sometimes, as in the Apennines, rendered this inevitable. To make them capable of independent action, these bodies were now rendered complete in all arms; divisions were organised of 8000 or 10,000 infantry, 1000 or 1500 cavalry, and twelve guns, under one commander, and trained to manœuvre in concert. A faculty of independent action was thus acquired; but it led to diffuseness of movement and want of unity in design, as is well shown by a quotation from Jomini's comments on the campaign of 1796 in Germany:—

Change in organisation of the Republican armies.

Divisions rendered capable of independent action.

"The defensive system, *en cordon*, had brought with it another not a whit better,—that of operating offensively with an army parted into many divisions, marching on parallel roads at a great distance from each other, forming thus only a single line of battle, and, for the most part, without any supporting corps—for a reserve of 800 or 900 horse cannot be counted as such. This manner of operating can only be ascribed to the fear of being outflanked, or the hope of outflanking the enemy, in thus extending the line to the utmost.

Abuses of their independence.

"This is the system which many military writers have taken for an enlargement of the scale of the combinations of war. It would be very well in fact, if an army were beaten directly a small body of the enemy appeared on its flank. But if it is true, on the contrary, that this army can, in such a case, concentrate on its centre, overwhelm the division opposing it there, and push it vigorously, what then will become of the two extremities of this front of operations, occupied by divisions moving each on its own errand, without reserves, and not in a condition to support itself? This assumed perfecting of the art of war was, then, only a new error; and to be convinced of it, it is only necessary to read the operations of Montenotte, Lonato, Ratisbon, and Amberg."

Such were the errors entailed by the divisional system; but the Republican armies possessed a tactical method which was an ample compensation. Before the Revolution important modifications in manœuvring had

been introduced, which presently proved so successful against troops trained exclusively in the system of Frederick. For mobility and the mutual support of all arms, in which the Prussians had formerly been so superior, were now on the side of the French.

Bonaparte shows that mobility must be combined with concentration.

The reader, already acquainted with the campaign of 1796 in the Apennines, will now see what was the new impulse which Bonaparte's genius gave to the French armies and to war in general. The man, the material, and the opportunity were all met together. The divisional system existed—the Austrians, operating in the way Jomini censures, were widely dispersed—and the young general, bringing La Harpe to back the garrisons of the redoubts at Monte Legino, and sending Massena from Cadibona against the Austrian rear, utilised the independent action recently acquired by divisions, while illustrating the advantages of concentration; and repeated the operation again and again.

More massive organisation attempted in Moreau's army.

Turning to the campaign of 1800 in Germany, the reader will see in the organisation of Moreau's army an attempt to impart that unity and impulsion which were so necessary to the execution of a sound plan, but which were found scarcely consistent with the divisional system. The divisions there are assembled in a right wing, a left wing, a centre, and a reserve, the last under the immediate direction of the general-in-chief. (See Chap. V. Part III.)

System of army corps organised under the Empire.

The idea of imparting the necessary concentration and unity of action to an army was completed in the camp of Boulogne in 1804-5, when Napoleon's authority, as Emperor, was supreme, and the army was shaped into the instrument of his vast designs of aggression. It was seen that great masses of cavalry might produce a decisive effect on a field of battle. They were therefore abstracted from the divisions, and these were now united into corps under a marshal or lieutenant-general. These corps consisted of 20,000 to 30,000 men, with a proportion of cavalry and artillery sufficient to render them capable of maintaining independent combats. And a strong reserve, composed of chosen troops of all arms, notably of the famous Imperial Guard, was kept under the Emperor's hand for the decisive moment of the engagement.

Introduction of highly-trained light infantry.

Another change, too, which had taken place, was in the mode of fighting. France supplied great numbers of conscripts, full of intelligence and enthusiasm. But, to oppose the vast armies that assailed her,

she was forced to send these into the field without the instruction and practice in close formations necessary to meet the trained battalions of the enemy; therefore they were thrown out in the form of skirmishers, where their intelligence and courage were rendered of avail, without the necessity of acquiring precision and coherence. It was soon seen that these lines of skirmishers—"clouds of skirmishers," as writers are fond of calling them, not without reason—might be made eminently useful to cover formations, to deceive the enemy, and to conceal tactical enterprises. Light troops, it is true, had existed before. The Austrians possessed, in Frederick's time, plenty of light cavalry in their hussars and Pandours, plenty of light infantry in their Croats; but these, very useful to harass convoys, to hover round the enemy's march and pick off stragglers or baggage, to plunder territory, or to obtain information, were of small account on a field of battle. Now, however, light infantry were rendered capable of opposing disciplined battalions, and further training enabled them also to take their places in the line of battle.

Thus far have been briefly traced the changes in the tactical conditions of armies down to recent times, when the system of the present century has received a new element—that of arms of precision—followed by one equally important, that of immense increase in the rapidity of the fire of infantry. Up to the war of 1870 the effect of these changes on tactics was merely speculative, for the first appearance of breech-loading rifles on a European field of battle was in the short and unequal Danish campaign of 1864, when the Prussians alone possessed them. In 1866 the Prussians armed with breech-loaders met the Austrians armed with muzzle-loaders; and although the superiority of the Prussian arm was abundantly evident, yet the rapid and almost invariable successes of the Prussians left them still confident in the method of attack which they had sedulously practised as the best they could devise under contemporary conditions. That method (described in a subsequent chapter) they took with them into the campaign of 1870; when, for the first time meeting an enemy armed with breech-loaders, they perceived that an extensive modification of it was inevitable.

CHAPTER II.

FORMATIONS AND COMBINATIONS OF THE DIFFERENT ARMS.

Formations of infantry.

WHILE close formations and regular methodical movements were considered essential, it was clear that deployed lines, because giving the greatest amount of fire, were best adapted for defensive combat. And as a single line, unsupported, and thinned by casualties, would soon cease to oppose an effective barrier, a second was placed in rear to fill its gaps, or to cover its withdrawal and take its place.

Difficulty of moving in deployed lines.

But in advancing on the enemy for any distance over broken ground, long deployed lines lose their order, fluctuate, and fall into fragments; and as they would, while in motion, be exposed, at a certain distance from the hostile line, to a fire which they could not return, they would, before closing, find themselves in much worse condition to engage than the opposing line that, remaining stationary, had preserved its order.

Use of columns for manœuvre and attack.

The same troops, however, moving in column would preserve their array, and, moreover, would often obtain shelter, during their advance, from accidents of ground, when they would have been exposed if in line. On arriving near the enemy the columns might either deploy and engage in a conflict of musketry with the hostile line, or, retaining their formation, might charge and seek to break, by their momentum, through the enemy immediately in their front, creating a gap, of which other supporting bodies could take advantage. And if a whole wing or centre could thus be brought to bear on the corresponding portion of the opposing front, it might, after breaking and dispersing it, deploy right or left on the exposed flank of the enemy.

During great part of the last century a controversy was waged between

the advocates of the line and the column formations. Whether deployed lines should ever be resorted to; whether columns were at all admissible —if so, how wide or how deep; were questions incessantly argued, and often by men who had frequent opportunities of seeing their opinions tested in war. The only evidence that can ever really be of use in forming a judgment on such points, is the practice of good modern generals in forming troops for defence or attack.

In Frederick's time the Prussians generally attacked in line. So perfect was their power of manœuvring, and their steadiness, that they could be trusted to form and advance thus under fire; and their own fire was so superior to that of any other infantry, so quick, well maintained, and deadly, that they soon counterbalanced in the conflict of musketry what losses they might have suffered in the advance. In one instance Frederick even advanced to attack the enemy in single line; for at Sohr he was so inferior in force, that in its usual formation his army would have been outflanked on both wings. In single line, then, he won the battle.

The French modify the Prussian system.

But the attack in line assumed and demanded a great superiority in the manœuvring power and fighting quality of the troops. Where armies were equal in flexibility, in discipline, and in weight of fire, it was incontestable that a body of troops, formed in line, could only advance under fire to attack another line of equal force, at great risk of being defeated before the actual collision could take place. Columns, therefore, were the alternative; and to mask their advance, and balance, in some degree, the want of power to return the fire of the hostile line, they threw out skirmishers to ply the enemy with musketry, and to hide with movement, noise, and smoke, the intended attack. This was the great change already spoken of: the Republican and Imperial armies were trained to manœuvre and attack in column, and hardly ever deployed except when defending positions.

Depth and extent of columns.

But the columns varied greatly in depth and extent of front. At Waterloo the French formed columns of attack by ranging eight or nine deployed battalions behind each other. The front of such a column, supposing the battalions to be 3 deep and 600 strong, would extend about 120 yards, and its depth would be 24 to 27 ranks. Such a mass would be formidable in appearance, and its first line and skirmishers would afford a considerable amount of fire during the deployment of the rest; while its momentum, if fairly launched upon a line, would

seem irresistible. But though often successful against Continental troops, it totally failed at Waterloo, where Ney directed D'Erlon's corps, 16,000 strong, formed in columns of this kind, against the British line. The defects are, that it is impossible to screen columns so large during their advance; that they offer a wide mark to the ravages of artillery; that they are unwieldy, and cannot readily either deploy (and D'Erlon's columns did try to deploy) or change front.

Columns of battalions.

A more usual formation, therefore, was a *line of columns of battalions*, formed each on the centre, on a front of two companies. Thus, a British battalion of ten companies might throw out two as skirmishers, and the remainder would form a double column of companies on the centre, eight ranks in depth, easy to manœuvre, able to form quickly to a front or either flank, and solid for attack.

For defence, the counter-attack *in line* by the defensive troops, taking place as it did only over a short space, and showing a large front, which enveloped the approaching columns on front and flank, would generally be the most effective: at any rate, repeated instances at Waterloo, where the French columns broke and fled before the charges in line of very inferior numbers, indicated what was the right course for British infantry. And as an example of columns of attack being defeated by *the fire only* of deployed lines, Napier's well-known description of the struggle for the hill held by the fusilier regiments at Albuera will occur to most readers.

Jomini's proposed combination for attack.

Jomini, who had not only thought and written much about war, but had been present in a great number of battles, considered that the best formation for attack he had ever seen (and which seems to have been executed at a review, not in actual conflict), was that of two lines of battalions, formed in double column of companies on the centre. Advancing thus, the first line, on approaching sufficiently near for effective fire, deploys, each of its battalions throwing out the two flank companies as skirmishers. This leaves, opposite the columns of the second line, intervals equal to their fronts; through which, as soon as the fire of the first line shall have produced sufficient effect, they advance to the charge. Jomini considers that no troops could resist this combination of fire and of shock.

Effect of columns of

In fact, it is easy to imagine the effect upon a defensive line, already thinned and shaken by the enemy's fire, when through the smoke it per-

ceived compact columns swiftly advancing upon its shattered array. The influence of the attack in column was chiefly moral in its nature; it was the solidity, the momentum, the measured tramp of its menacing and confident advance, that scattered the opposing line. "In war," says Jomini, "I have never seen but two kinds of infantry combats: either that of battalions deployed beforehand, which commence firing by companies, and then pass, by little and little, to file-firing; or else that of columns marching boldly on the enemy, who gives way without awaiting the shock, or who repulses the columns before actual collision, either by his firm countenance, his fire, or by himself advancing to attack. It is only in villages and defiles that I have seen actual conflicts of infantry in column, the heads of which fought with the bayonet: in line of battle I have never seen the like." Again he says, "In the late wars, Russian, French, and Prussian columns have frequently been seen to carry positions with shouldered arms, and without firing a shot; the triumph is that of impulsion, and the moral effect produced by it." Attack chiefly moral.

As it seems probable, therefore, that columns would never actually close on a line that stood firm, their natural course would be, on finding the enemy did not give way, to deploy and try the effect of their fire; when, in an attack such as that described by Jomini, the first line, now behind the second, could form column and try the effect of another assault. Facility for deployment was for this reason, and also for the sake of effective action against a broken enemy, specially to be desired; therefore columns of battalions must always have been superior to those of more massive formation. Superiority of small over massive columns.

When the French army, covering the siege of Peschiera, expected the attack of the Austrians, in 1859, an order similar to that described by Jomini was prescribed for the defence. "As soon as the enemy shows himself," says the Emperor's order in anticipation of battle, "the fire of artillery will commence. The lines of infantry will be disposed, when the ground permits, alternately in battalions deployed and in battalions in double column; useless fire of skirmishers will be avoided; and while the deployed battalions engage in file-firing, the others will beat the charge and attack the enemy with the bayonet." Mixture of line and column for defence.

The points wherein the French system differed from the Prussian were, then: that long processional turning movements were no longer neces- Difference of Prussian and

French systems.

sary; that obstacles of ground which forced lines to make circuits to preserve their order would not stop columns, which could therefore be directed with much greater certainty on required points; that, consequently, great plains were no longer necessarily fields of battle, since any ground would suit the purpose; that the cavalry, kept in close deep columns beyond the enemy's reach, could move rapidly and accommodate itself to circumstances; that the defeat of part of a line no longer entailed the crumbling of the rest, since broken troops were easily rallied on their supports. In fact, to use the metaphor of a French general, Baron Ambert, a flexible chain was substituted for a bar of iron. And, lastly, great reserves were kept in hand for a decisive movement.

Why numbers brought to bear at parts of the line prevail.

The reader will perhaps say that either two lines of infantry do occupy adequately their ground, or they do not. If they do, the multiplying of the attacking force ought not to prevail; if they do not, they should be placed in deeper formation.

But if in deeper formation, the extent of ground occupied will be contracted in proportion. And it is probably true enough that so long as two lines of good troops remain intact, they ought to be as capable of repelling any attack as if their lines were trebled or quadrupled. Moreover, a deeper formation, while it diminished the front of fire bearing on the attacking columns, would increase the losses of the defensive troops from the assailant's artillery. In any case, it is evident how, when a battle has been some time in progress, superior numbers assembled on a particular part of the general front will for the most part prevail. For the defensive line is no longer intact: numerous drafts have been made on the second line to fill the gaps in the first; the assailant's artillery has had its effect; the attacking force can always feed its line of fire from the supporting columns, and, maintaining a superiority, can either quench that of the enemy, or, when a due effect has been produced, launch its columns to the assault. An attempt to meet the attack by a deeper formation would dangerously diminish the front of the defender's fire; and would, moreover, generally offer a flank to the assailant's enterprises.

Consequent aim in modern battles.

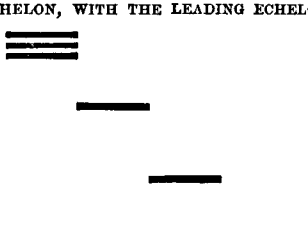
It will be seen, then, that (granting the open turning of a skilful adversary's flank to be generally a manœuvre full of peril to him who attempts it) the great object in modern battles is to bring, at a certain point of the battle-field, a superior number of troops to bear upon the

enemy. The design is screened by false attacks, by features of the ground, by a general advance of skirmishers, and by deceptive formations and manœuvres. The attacking force must be strengthened at the expense of some other part of the line—to engage that other part would be to offer to the enemy the opportunity of restoring the equilibrium of the battle which it had been the object of the former manœuvre to disturb. Therefore modern battles have been for the most part partial attacks, where the assailant puts forth his foot no farther than he can be sure of drawing it back again. Thus, at Ligny the French right and Prussian left wings scarcely joined in the action, the efforts being made on the other wings and centre: at Waterloo the French left first attack Hougoumont; then the right is launched upon La Haye Sainte and upon the English left; finally, the baffled French make desperate efforts against the centre.

Very favourable to this non-committal kind of attack is *echelon* or *stair* formation of infantry, where each fraction of the attacking force, whether brigade, battalion, or company, advances successively from a flank or centre of the line, either at full wheeling distance, or, in the case of large echelons, where this would be inconvenient or impracticable, at a certain regulated distance from the next in front. The exposed flank may thus by being retired be secured—line may be formed on any front, or a new front of echelons be shown by a simple simultaneous wheel. The head of the formation may be reinforced for the attack of a post, such as a farm or village covering the line of battle; if successful, the remaining echelons come up and form line upon it—if strongly opposed, they successively reinforce it—if defeated, they cover its retreat.

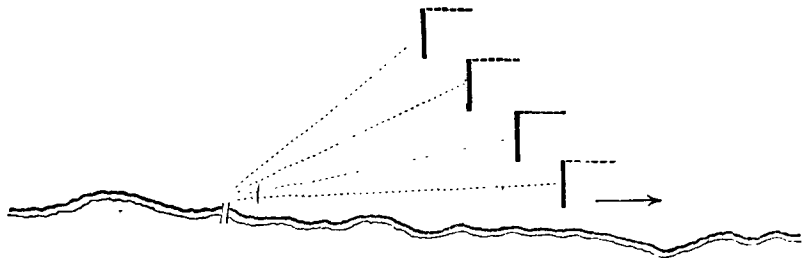
Methods of securing this object: echelon formations.

ADVANCE IN DIRECT ECHELON, WITH THE LEADING ECHELON REINFORCED.



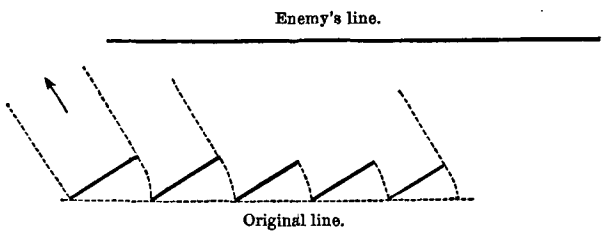
This formation would have been suitable to an advance like that of

M'Mahon's from Turbigo (page 251), where a flank is offered to the enemy, since, by a simultaneous wheel of fractions to the threatened flank, the



echelons front the enemy, and successively support each other, while the imperilled flank, by being refused, is rendered more secure, and the point of passage is better covered.

The march in oblique echelon was one of the manœuvres often em-



ployed by Frederick for gaining an enemy's flank. The fractions of the line are wheeled on an arc less than the quarter circle, and then advance each on its new front: when, though appearing from a distance still to be moving in line, they gain ground rapidly to a flank, and by a simultaneous wheel backwards form line towards the enemy.

When columns were successful in breaking the opposing line, they deployed right and left, enveloping and rolling up the exposed flanks, while through the widening gap poured cavalry and supporting bodies of infantry to attack the second line and reserves, and prevent them from falling on the victorious columns. In this way a well-supported attack spread confusion through whole corps of an army; for the breaking of a line which had stood fast to the last moment compromised a large extent of troops to right and left of the gap.

Since the introduction of rifles and rifled guns into armies, the Prussians, perceiving the difficulties of advancing in battalion-columns under the fire of those weapons, have sought, by diminishing the size of their columns, to offer less mark both in front and depth to the projectiles, and to take fuller advantage of the cover which average ground affords. A battalion 1000 strong is formed in three ranks and composed of four companies, each company of two divisions. According to the latest regulation,* in company-column one division of each company is ranged in rear of the other, the third rank of both divisions forming a third division behind them. Thus the column, before it deploys, is six ranks deep, and of the breadth of a division. When the company is to bring its fire to bear, the third division (composed of superior marksmen) passes from the rear to the front of the company, and forms both the skirmishing line and the supports thereto, and the other divisions, at need, successively reinforce it. The formation of the battalion varies according to circumstances: sometimes its four companies advance in a line of columns; sometimes one is singly engaged and is reinforced by the others; sometimes the two flank companies advance and throw out their skirmishing divisions, while the two centre companies form a column of reserve in rear; with other modifications.

Prussian order for attack, 1870.

The further changes which proved necessary in actual war are described in a subsequent chapter.

As cavalry is found by experience to require a space of 300 or 400 yards from its starting-point in order to acquire the necessary union of coherence and momentum, it should be stationed at that distance behind any point it may be intended to defend, whether a post, a battery, or the flank of infantry, stationary or in motion.

Formations of cavalry.

The peculiarities of this arm are, first, that the opportunities offered to it of attacking to advantage are transient, and must be seized at once. Secondly, that either success or defeat so far disorders the combatant mass as to place it at the mercy of fresh troops of the enemy. Thirdly, that it commands special opportunities, from the speed of its movement, for attacking the enemy in flank.

* The Second Edition of this book described, in this place, a previous mode of forming and using company-columns.

For the first reason, then, it will often be expedient to keep a body of cavalry formed in the order of attack, lest the opportunity should pass during the preliminary formation.

For the second reason, it is imperative, as has frequently been experienced, not to commit the whole force to a simultaneous attack, especially against cavalry. The first line should be followed by a second, at a distance sufficient to allow the first, if defeated, to pass round the flanks or through the intervals; and a strong reserve should halt and deploy at 400 yards from the point of collision.

For the third reason, cavalry attacking any troops in line should form on a front as extended as is consistent with the preceding rule of preserving a second line and reserve. But since either cavalry or infantry, on seeing a fully deployed line of cavalry advancing upon it, might take measures to protect the menaced flank, it is well to keep part of the intended first line in column, behind the flanks of the front, till the moment preceding the change of pace from the trot to the charge, when the column on the side where the enemy is to be outflanked, or on both sides, should rapidly deploy.

Jomini recommends the following formation for cavalry: One-fourth deployed; one-fourth in column on each wing; one-fourth in reserve. Thus, of 40 squadrons, 10 would be in line, 10 in column on each wing, 10 in reserve in rear of the centre, and at some distance from the rear of the wings. But this formation is preliminary only, as the columns in rear must deploy for the charge. "Cavalry," says Marmont, "cannot and ought not ever to fight in column. This formation will serve to facilitate the march; but at the instant of approaching the enemy it ought to deploy."

All other changes of front and of formation should be executed at a certain distance from the enemy. To attempt them when an adversary is advancing within charging distance, is to invite an overthrow. In such a case, the best course a leader can take is to charge in the existing formation.

Cavalry charging a broken body of infantry ought to render it incapable of again assembling as a body in that action.

While improvements in weapons have materially affected the actions of infantry and artillery, science has done nothing for cavalry. In that arm no change of vital importance has taken place since, ceasing to be

mere men-at-arms, heavily armed, slow of movement, and trusting for their effect to the power of wielding their weapons which they derived from sitting on horseback, they became formidable from the rapidity of their manœuvring, and the order and momentum of their charge. It was in the second of his Silesian wars that Frederick first showed the world the capabilities of cavalry; in the third they reached the climax of their discipline and achievements; and no army has since possessed a cavalry leader or a body of horsemen who could claim any superiority over Seidlitz and his splendid squadrons. In fact, notwithstanding the huge masses of cavalry used in the later wars of Napoleon, their true use and efficiency for combat seems to have been less understood then than in the time of Frederick. In place of the resolute home charge, cavalry began to manœuvre defensively, to resort to file-firing, and to halt to receive the enemy; and though, from time to time, gallant charges were made by the horsemen of each European army, yet the combination of impetuosity with determination in the attack was no longer, as it had been in the last half of the last century, the characteristic of the arm. In those wars originated the notion which now more indisputably prevails, that cavalry cannot break steady infantry; though it was clear that in no formation could infantry really withstand a cavalry charge pushed home, and that when horse failed to break foot, it was from moral, not physical causes. Yet the cavalry of the Republic and Empire possessed one advantage over that of Frederick; for the system of rendering lines flexible, by jointing them into manageable portions for facility of manœuvre, had extended to this arm, and the French squadrons, by no means superior to their Prussian predecessors in the line of battle, were much more easily handled.

Questions have been constantly debated respecting the management of this arm, of which the following seem the most important:— Debated questions concerning cavalry.

1st, *Whether cavalry should ever charge in close column.* — Since Frederick's time the Prussian cavalry has been trained to act in squadrons at quarter distance;[5] but it is contrary to the opinion and practice of Frederick, the Archduke Charles, and Napoleon. It may therefore be safely concluded that open column, or rather successive lines, is the best deep formation.

2d, *Whether the front line should be formed with or without inter-*

vals.—Seidlitz always wished to see the centre of his line in the charge "jammed boot to boot;" and, indeed, unity of impulse being the grand requisite in a charge, it is hard to see how it can be attained so well as by a formation that renders it difficult for any horseman to disengage himself from the moving mass. Intervals imply looseness and fluctuation; nevertheless, considerations of manœuvre have induced most armies to admit them. In the second line they are indispensable to permit the retreat of the first, if defeated. The British squadrons are separated in line by intervals of one-fourth of a squadron.

3d, *Whether the formation in echelon is judicious for cavalry.*—When a charge is executed in this way, a whole line is not exposed to be at once defeated; opportunities are afforded of retrieving a first failure, and an exposed flank is protected. But, on the other hand, the action of the squadrons (if the echelon be of squadrons), which should be simultaneous, is thus rendered successive, and loses much of its effect; and the defeat or unsteadiness of the leading echelon, which is more exposed, and perhaps therefore less confident than the others, would be visible to all, and might have a bad influence. In fact, the success or failure of the charge would in a great measure depend on the success or failure of the leading squadron. Therefore, though cavalry in echelon, within charging distance of the enemy, should advance in that formation rather than pause to form line, yet the line, supported by a second line, is the best formation for attack.

But, for manœuvring, the echelon of squadrons at half distance seems specially suited to this arm. Not only is the flank (the weak point of cavalry even more than of infantry) thus protected, but less depth is offered to the enemy's artillery than in column, while, in advancing, more order can be preserved thus than in line: line can be formed, in the simplest manner, oblique to the original front, or on the same front; and the front can be readily changed to any extent.

4th, *The amount of cavalry that can be effectively used in a single mass.*—In his reviews Frederick used to unite 10,000 or 12,000 horse for a charge—Napoleon kept immense masses together. The Archduke Charles says, that, unless the ground limits the action of this arm to particular parts of the field, it should be kept disposable in one body. Nevertheless the difficulty of maintaining order in the advance of a very

long line limits the manageable front to six or eight squadrons in first line. Marshal Marmont, whose ideas are always carefully considered, and who knew war well, says, "I place at 6000 horse the utmost force of cavalry manageable; with this one ought to succeed in all that is reasonable to undertake on a field of battle with cavalry."

5th, *The pace of the charge.*—The opinion of Jomini on this point will be to most readers, accustomed to attach high importance to the impetus of the charge, quite unexpected: "When the enemy approaches at a fast trot it is imprudent to advance on him at the gallop, for you will arrive all disunited against a mass compact and serried, which will traverse your disjointed squadrons. It will be only the moral effect produced by the apparent audacity of your charge which will help you; but if the enemy appreciates it at its just value you will be lost, for success ought naturally to attend the compact mass opposed to cavaliers galloping without cohesion." He goes on to say, "I know that many horsemen think otherwise, but I know also that the most distinguished generals of this arm incline to the trot. Lasalle, one of the most skilful of these, seeing one day the enemy's cavalry approach at a gallop, said, 'There come lost troops,' and these squadrons were in fact overthrown at a slow trot. Personal bravery has more influence on the shock and the *mêlée* than the different paces." The only cavalry action of the Crimean war goes to confirm this. The Russian horse bore down upon the heavy brigade at Balaklava at the gallop, but, before closing, drew up to a walk, either to restore lost order, or from failure of resolution. Our regiments (except the 4th Dragoon Guards, which attacked their flank) moved to meet them much more slowly, hampered by impediments of ground; yet the enemy, thrice their numbers, were defeated.

6th, *Whether the cavalry should be to a certain degree independent, under their own commander.*—In Frederick's battles, while the king directed all the movements of the infantry, we find the chief of the cavalry selecting his own time for the attack. And when great masses of cavalry were brought on the field in the wars of the Empire, Napoleon permitted, indeed required, that their commander should judge of and seize opportunities for action. These opportunities are, in fact, so fleeting, that it would seem impossible to employ cavalry to advantage, if they are to

receive their impulses from a distant part of the field. "Cavalry charges," says Napoleon, according to Montholon, "are equally good at the beginning, middle, or end of a battle. They should be made as often as possible on the flanks of the infantry, especially when the latter are engaged in front."

But there is great authority for a different course. Baron Müffling, the Prussian commissioner at the British headquarters, urged the commanders of two brigades of English cavalry at Waterloo to charge at a moment when their attack would, as he thought, have been very opportune: they agreed with him, but said they dared not move without orders. Discussing this matter afterwards, Wellington expressed his opinion thus:—"It is of paramount importance that a general who finds himself in a defensive position should at no moment of the action lose the free disposal of all the troops under his orders. In the battles of Vimieiro, Talavera, Busaco, and Salamanca, he had allowed himself to be attacked, with the view of assailing the enemy with superior forces as soon as he had laid himself open. For this object it was necessary, 1st, That the commander-in-chief, standing on an elevated point of his position, telescope in hand, should investigate, by his own observation and the reports he receives, the disposition of his antagonist, and discover means of hindering the co-operation of his forces; 2dly, That the leaders of troops should set themselves in motion the very moment they receive their fresh orders. But this could not be done if they were engaged in their own enterprises, unknown to the general in command.

"Now, suppose, in the case mentioned, the cavalry had made their 3000 prisoners, it remained very doubtful whether they could have returned to their position in half an hour. When cavalry is once scattered, no one can foretell to what that may lead. The charms of pursuit are so great that no trumpet-signal can arrest it. . . . If the enemy should succeed in restoring order and defending himself on a body of cavalry hastening to his support, who can then calculate that the pursuit will be ended at a given time? who can foretell that a hard fight of long duration will not ensue, during which time the main army will remain paralysed? Who would expose himself to such accidents? and for what? To make a couple of thousand prisoners, which perhaps may have no effect whatever on the decision of the battle. And supposing those prisoners were made,

still the troops would have lost their first freshness, and no longer render the services in the battle which they might have done without this interlude."

Wellington, then, desired to keep the constant control of his cavalry. But two things are to be observed here:—1st. That he speaks of *defensive* battles; and his arguments are so strong that it may be assumed that a general awaiting his adversary's movements should certainly follow his example. But the tactics of Frederick and Napoleon were essentially *offensive;* and when once they had placed the mass of their cavalry in the field where it was destined to act, it was necessary, in supporting offensive movements, that the immediate commander should be left to his own inspirations. 2dly, That Wellington was comparatively weak in cavalry, whereas the French and Prussian armies were powerful in that arm.

It appears, then, that when a powerful cavalry is supporting offensive movements, its commander should be allowed considerable discretionary power; but that the cavalry of an army which awaits its adversary, especially if inferior in force, should be constantly under the direction of the commander-in-chief. But this of course does not apply to the divisional cavalry, or squadrons which, in Continental armies, form part of the division or corps.

Formation of artillery.

The only formation for artillery in action is, of course, that of line. The leaving of intervals between the guns (nineteen yards from centre to centre) is necessary for the limbering up of the pieces, and renders the enemy's direct fire upon them less destructive.

Echelon of guns.

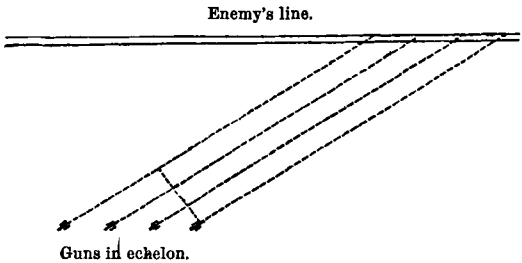
But in gaining a direction oblique to the enemy's front, a line of guns will frequently be exposed to enfilade. A partial remedy for this in open ground is to retire the guns in echelon to the exposed flank.

The same order is applicable when numerous batteries are for a particular purpose concentrated on a part of the enemy's line.

Former relations of artillery fire to slopes of ground.

The most effective fire of artillery was, in the days of round-shot and case-shot, that directed down a gentle slope, so equable in its fall that the course of the projectile was nearly parallel to it throughout its extent; or the fire along a plain above which the guns had a certain command. Very commanding positions were ineligible for guns. Generally, an

elevation of from 20 to 30 feet above a plain gave all the command to be desired.



More commanding sites now desirable.

But now that, with rifled guns, ranges and accuracy have greatly increased, and that the effect of artillery depends on the right bursting of shells, it is unimportant that such a slope should lie in the line of fire. If it does, it is better defended, up to rifle-range, by infantry, while beyond that range, if it exists, it has ceased to bear its former relation to the path of the projectiles. Loftier sites are now more eligible, as securing a more extensive and searching view. Commanding ground should therefore be selected, but not, as a rule, peaks, which should be reserved for generals.

Essential points in the training of artillery.

Artillery may be perfect in material, drill, and accuracy of practice; and yet be very far from possessing the kind of efficiency required in modern war. It will still be necessary to add thus to its qualifications:—

1. To practise on objects representing bodies of infantry and cavalry moving directly across the front, obliquely to it, advancing on it, and retiring from it; calling for rapid changes of aim and of range.

2. To ascertain by experiment the effect of the various projectiles and fuzes upon objects representing troops of all kinds, in various formations, and under various circumstances of exposure and shelter, and upon different kinds of buildings.

3. To work in masses in combination with other troops. The commander of the divisional and the commander of the corps artillery must be, each in his degree, proficient in recognising the parts of the opposing line on which to bring his batteries to bear, the best positions for the purpose (having reference to the ground occupied by the troops he is supporting as well as to his own ground), the readiest means of advancing or retreating from them, and the control of the fire of his various batteries,

whether concentrated on one purpose or on several, so as to secure simultaneous and concerted action, and to impart to the whole the benefits of the experience which any may gain during the action, as to the range, or the effect of the fire on the enemy. To accomplish this, after organising the march of his batteries with a view to their readiest action, comprises an onerous list of duties; and it will make a vast difference to the artillery commander, in the hour of battle, whether he directs batteries which are merely well-drilled individually, or those which are accustomed to act together, and in combination with other troops.

Combination of cavalry and artillery.

Seeing that cavalry on the defensive was helpless, Frederick, in the Seven Years' War, organised batteries of light artillery, capable of moving at the pace of squadrons, and intended to support all their enterprises.

When cavalry is advancing over a considerable space upon the enemy the horse-artillery gallops out, and, having passed ahead 400 or 500 yards, forms on the flank of the line of advance, opens fire, and continues in action till its front is masked by the horse. In retreating, the reverse of this process is executed—the guns halt and deliver fire, and gallop on, overtaking the retreating cavalry, and again, from suitable ground, protect its retreat.

When cavalry is finally advancing to the charge, the artillery must be always in rear of *the prolongation* of its flank or flanks—not directly in rear, where its fire would be masked, and where it would be ridden over by defeated horse.

When a change of front of the cavalry is contemplated before charging, the guns should be on the pivot flank, where they can act during the wheel, and fire transversely on the opposing line; and should be clear of the flank of the squadrons by at least 100 yards.

' If the sole action of horse-artillery be specially required, as in taking up the prolongation of an enemy's flank, or enfilading a formidable battery, its front, while advancing, may be masked by cavalry; but as soon as the guns are in action, the cavalry, drawn up as already described, should take post at full charging distance in rear of the exposed flank or flanks. If the horse-artillery be formed on a front perpendicular or oblique to the enemy's line, all the cavalry will be in rear of the flank next the

enemy; if its front be parallel or slightly oblique to the enemy's, the cavalry will be in two bodies in rear of the flanks.

Though good infantry alone has generally, in the wars of the present century, successfully resisted cavalry alone, yet cavalry and artillery together ought to destroy it. For the cavalry, dividing into two or more bodies, and manœuvring on the flanks of its line of retreat, would force it to form squares, or to show front on various sides, which formation could not long be maintained under the fire of the guns. Unless the ground were broken and favourable to infantry, or shelter very near, the case of the infantry ought to be desperate. In 1811, a French brigade of infantry, attacking the Portuguese militia near Almeida, was assailed by six British squadrons and a troop of horse-artillery. "Military order and coolness," says Napier, "marked the retreat of their squares across the Turones, yet the cannon-shot ploughed with a fearful effect through their dense masses, and the horsemen continually flanked their line of march; they, however, gained the rough ground, and finally escaped over the Agueda by Barba del Puerco, but with the loss of 300 men killed, wounded, and prisoners."

Combination of infantry and artillery.

It is not desirable to place artillery directly in front of infantry; for the fire of the rifles would be masked, and the powerful protection which they could afford to the front of the battery against the close fire of infantry would be lost. Probably guns are now best placed in re-entering intervals of the infantry line, or on commanding ground, the steep slopes of which below, and in front of, the guns, are defended by infantry fire. They should, however, take up positions from which it is easy to advance or retreat.

It is impossible for infantry to advance against infantry in a good position, until the defensive line is shaken by artillery. The decisive action of the batteries which aids the attack will therefore take place against the infantry. But the defensive artillery will seek to prevent this by firing on the batteries, knowing that if it can neutralise their effect, the infantry can take care of themselves. If the assailant's artillery were to permit itself to be thus fired upon without returning the fire, it would be crushed. Thus, the first efforts of the artillery on each side are generally directed to silencing the opposing batteries.

Cavalry supporting infantry may advance in rear of it; for the distance that must be preserved between the two bodies, in order to give the cavalry the necessary career, will obviate the disadvantages of a deep formation. It may, by its action at the right moment, convert a doubtful conflict into a success, or check the pursuit, by the enemy's cavalry, of its own defeated infantry. Combination of infantry and cavalry.

The only resource of battalions attacked in flank by cavalry has hitherto been to form square. They would now probably seek to form front partially in a new direction. In any case the front of fire which they would oppose to the hostile infantry would be diminished; gaps would be caused in the ranks; and the disorder would be further augmented by the continued manœuvring of the cavalry round the flanks of successive formations, followed, if opportunity should be favourable, by the charge. A combination of infantry and cavalry ought therefore still to succeed against a superior body of infantry alone.

Experience has mostly proved that, in general actions, cavalry charges, except against cavalry, are indecisive unless supported by infantry. All the formidable inroads of Napoleon's horsemen on the British line at Waterloo availed nothing for the want of infantry support. They inundated the field, drove the artillerymen from their guns, careered in the intervals of the squares, and seemed masters of the ground, yet failed to make a permanent impression. At Vionville the Prussian horse spread disorder far into the French ranks, but were compelled to retreat with heavy loss. Every great attack of cavalry on a mixed force should therefore, if possible, be supported by infantry. These latter may advance with, or even before, the former, as they will certainly be left behind in the course of the movement. They should follow in columns, with considerable lateral intervals, through which the cavalry, if defeated, may pass; and the formation of squares of battalions, echeloned on two lines, will offer the most effectual check to pursuing squadrons. At Austerlitz, Kellermann's cavalry, defeated and pursued by the Russian horse, reformed between the lines of infantry, and, attacking the hostile squadrons when disordered by the fire of the squares, entirely defeated them.

Probable modifications in the employment of cavalry will be discussed in a subsequent chapter.

CHAPTER III.

FORMATION OF THE LINE OF BATTLE, AND OCCUPATION OF THE GROUND.

A LINE of battle should be a disposition, on a great scale, of the three arms, for their effective individual action and mutual support.

Proportions of troops to space.

A battery of six guns (19 yards from muzzle to muzzle) occupies 95 yards; add 28½ yards, or one interval and a half, on each flank, and 152 yards is the space for the battery. These intervals are necessary to enable the teams with the limbers to reverse when limbering up.

Cavalry occupy each man and horse 1 yard laterally; a squadron of 48 file, 48 yards: a regiment of six squadrons (with five intervals of 12 yards each), in round numbers, 350 yards.

Until recently, foot-soldiers standing in the ranks shoulder to shoulder occupied each only 21 inches of lateral space. Ten men extended over seven ordinary paces of 30 inches, therefore twelve men occupied 7 yards. Thus 3000 infantry in single rank covered nearly a mile; in two lines two deep this would give 12,000 infantry to a mile in the line of battle. Allowing for the space occupied by officers, intervals between battalions, and space for two batteries, a division of 10,000 infantry with 12 guns would suitably occupy a mile of ground. But part of the force would be employed by sending out battalions as skirmishers, therefore nearly 12,000 men would still be needed to occupy the mile on two lines.

Since 1867 each man is allowed 2 feet of lateral space. Three men occupy 2 yards; standing two deep, six men occupy 2 yards; and in two lines, two deep, six men occupy 1 yard. In a mile of ground, allowing for space occupied by 24 officers (16 yards), intervals between battalions (10 yards), and space for two batteries (304 yards), 1430 yards are left for the rank and file, which, multiplied by 6, gives 8580 as the

number that may be ranged, with divisional artillery, on a width of a mile of even ground.

Reasons for placing cavalry on the flanks.

Supposing two or more divisions to be assembled in line of battle, with a proportionate body of horse, if the cavalry were placed between them in column, it could not deploy for action without overlapping on each side a large part of the infantry and masking its fire. If (occupying the same situation) it were deployed between the infantry divisions, a large part of the line would thus have no fire to oppose to an attack of infantry. The enemy's battalions might therefore fire with impunity on the central mass of cavalry, who must either retire, leaving a gap in the line, and exposing the flanks of the divisions, or must charge the opposing infantry in front, which will generally be a doubtful enterprise. In any case it must find great hindrance to its most effective mode of action—namely, against the flank of either infantry or cavalry; and its defeat would lay bare the centre of the line. For these reasons, when the ground is suitable, part of the cavalry is disposed in rear of the flanks of the line, where its front is free for deploying or changing direction, and where it covers and watches over the weak points—namely, the flanks—of the line of battle: and when one flank is secure and the ground there difficult, it should generally be placed on the flank and in rear of the other wing.

Position of cavalry attached to divisions or corps.

Such being the general rule, the course of an action nevertheless often gives opportunities for cavalry to operate to advantage between the divisions of infantry. For instance, a hostile column retreating in disorder from an ineffectual charge, or a hostile line engaged in a conflict of rifle fire, the flank of which might be imperfectly covered, or a line of skirmishers far from their supports, would give openings for a comparatively small force of cavalry to act with decisive effect. In each corps of two or three divisions, a few squadrons might therefore be advantageously posted so as to act between the divisions; and their proper place would be sheltered or retired points in rear of the first line.

Investigation of the proportions of troops to space in different battles shows that wide latitude has prevailed even in the same epoch and in the same army. It has been much more common to find troops too crowded than too extended. Generals have often seemed to think that depth of formation means strength. The notion, always false and mischievous, is now preposterous. To crowd a position is to suppress so much of the front

of fire, and to add proportionately to the losses suffered from the fire of the enemy. On the other hand, a too extensive position *may* be weak everywhere, and *must* have many weak points; and the temptation to include too much ground, because it is strong, or because the position would be incomplete or unsafe without it, may be fatal.

On the basis, then, of the space which the different arms occupy in their most effective formation for battle, should the extent of ground to be occupied by a given force, or the numbers required for a given position, be estimated. But this basis has of late undergone a great change. Infantry formed, according to the latest examples, for the attack (a formation which will be discussed at large in Chap. V.), occupy an immensely increased extent of front; and a corresponding change in the disposition of the defensive infantry appears inevitable, and will also be discussed in the same chapter.

Artillery in line of battle.

The change in the nature of the sites which are most eligible for artillery, renders it often expedient to place it, in parts, behind the infantry line. It will not, therefore, increase the extent of the line of battle in a degree proportionate to its numbers; and it will, much more commonly than was formerly the case, be assembled in great batteries, at such parts of the line as the circumstances of ground and of the expected attack may render expedient, and independent of the particular bodies of infantry to which it may be ordinarily attached.

Disposition of second line,

The object of the second line is to feed, reinforce, and relieve the first. It should be near enough to render prompt support; and though it is of course desirable so to place it as not to increase the losses inflicted by the enemy's guns, yet the effect of shell-fire on the ground behind the point aimed at is so difficult of calculation, that it will be well to make due proximity to the first line the main consideration, combining it with as much shelter as can be found or conveniently created; and the units of the second line, not larger than half-battalions, should be kept in a formation as compact as the nature of the ground will allow.

and reserves.

Except where it may be deemed expedient to place small bodies in third line for the support of particular points, the reserves should be kept in masses; and the development of the contemporary system of attack shows that their place will generally be on the flank, especially an exposed flank, and at *any* points from which it is probable that an important counter-attack will become expedient in the course of the battle.

Conditions of ground.

However proper and reasonable general rules for occupation of ground may appear in themselves, they must often be modified to suit the conditions of the battle-field. These conditions will now be considered under the different heads of—1st, *Slopes of the ground;* 2d, *Obstacles in front of the line;* and, 3d, *Obstacles on flanks of the line.*

Should positions be inaccessible.

The position occupied by an army on a continuous and very steep range of heights, may be so strong as to defy the attack of superior numbers. But in proportion to its inaccessibility will be the difficulty of quitting it for a counter-attack upon the enemy. Cavalry and artillery will lose their effect, and the conflict will be one chiefly of infantry; therefore a general must consider, before taking up such a position, what his object is in delivering battle. If to measure his strength and skill with his adversary's, and to put matters to a decisive issue, such ground will be quite unsuitable; but if his object be defensive merely, it will perfectly answer his purpose. Thus Wellington, halting in his retreat before Massena upon Lisbon, to give the inhabitants time to seek safety behind him, and to prevent the pernicious effect which continual evasion of an enemy must exercise on the spirit of an army, ranged his troops on the heights of Busaco, against which the French generals led their veteran columns absolutely in vain. And for a containing force, fulfilling the functions described in Chapter I., Part IV., as proper to it, such a position will be invaluable. But a superior antagonist, though baffled for the moment, will only be delayed; for the means of turning the position must certainly exist. Thus, on the day after the battle of Busaco, Massena, turning Wellington's left by a road through the mountains, forced him to continue his retreat.

Positions which should generally be chosen.

The most advantageous ground in general will be, then, such as obstructs the assailant, but not the defender. The crest of slopes overlooking a plain along which the enemy's troops must advance under fire, with their designs apparent, to ascend ground the inclination of which is in itself an obstacle, will be such a position as a general anxious to meet his adversary will select.

Passages of a river covering a line of battle.

When the front of an army is covered by a river, the destruction of the fords and bridges will entail the same general consequences as the occupation of unscalable heights, except that in this case the conflict will be rather one of artillery than of infantry. But by preserving the passages the power of counter-attack is retained, and the river then

bestows this advantage on the defender, that the points where the assailant's columns must advance being limited in number, and previously known, preparations may be made to meet with a concentrated opposition the different attacks. But, on the other hand, if the assailant's bank screens his movements, the chance of being turned, as Soult was turned by Beresford at Orthez, will always exist.

Obstacles partially covering the front.

An impassable obstacle, such as a piece of water, a ravine, or a marsh, might extend *partly* along the front of a position. To extend the line of troops along the rear of the impediment would be to repeat the fault of the French commander at Ramillies, and to give the enemy the opportunity of falling in full force on the remainder of the line. But though either cavalry or infantry thus posted would be paralysed, yet guns might play across the impassable space with full effect, and would not only be secure from capture, but, if the obstacle were a marsh, would suffer less from an opposing fire, since the projectiles which might strike in front would not rebound from the soft soil, while percussion-shells would fail to explode, or, sinking deep, would explode harmlessly.

Relations between the direction of obstacles and the line of battle.

To occupy a position which *is perpendicularly intersected by an impassable obstacle*—a deep ravine, stream, lake, or marsh—would be to divide the army voluntarily into two isolated parts, and give the enemy the option of bringing his mass against either. Such was the error of Durando's position before Mortara in 1849. But if such an obstacle, after approaching the front of the position, *ceases there*, it will be of great advantage to the defence, for the assailing forces will be divided by it, while the defenders can bring their main strength to either side.

Essential condition of a good position.

However advantageous a position may otherwise be, if its immediate front be thickly wooded, or so broken as to conceal the enemy's movements, it will scarcely be tenable; for, not only will the defender's special advantage, that of firing on the assailants during their advance, be lost, but the enemy may mass his troops on any point he selects, undiscovered; and he will thus possess the power of attacking that point with superior numbers unshaken by fire. One of the first conditions of a good position is, therefore, that it shall afford a full view of the enemy's movements within effective cannon-range.

Defensible points of a position.

Certain defensible points, such as a hamlet, village, farm, church, and churchyard with its wall, or a grove, within distance of easy support in

front of the line of battle, will generally increase its strength in a very material degree. Strong in itself, and its garrison constantly reinforced from the line, while the ground in front is swept by batteries, such a point is difficult to attack directly; the enemy cannot attempt to surround it without exposing the flank and rear of the attacking troops; and to pass it by in order to reach the position, the assailants must expose their flank to its fire. If several such points exist, they support each other, isolate the parts of the enemy's attack, and force him to expend his strength in costly assaults upon them; in fact, they play the part of bastions in a line of fortification. But it is important that they should be within supporting distance and easy of covered access from the rear; failing these conditions, they had better be destroyed, if possible, as defences, and abandoned to the enemy. A remarkable illustration of this is afforded by the Austrian position at Solferino (Plan 17). Their general line stretched through Pozzolengo and Cavriana; by far the strongest part of that field, taken singly, is the hill of Solferino, commanding all the neighbouring country, crowned with strong buildings, and flanked by precipitous slopes. But the back of the hill is so steep and scarped that it can be ascended only by a single winding path; and between it and the high ground of Cavriana in rear stretches a width of nearly two miles of broken ground. The brigades that occupied this formidable outpost maintained themselves long against the direct attacks of the French; but when the assailants turned it, part of the garrison was cut off, and both troops and post were lost. It would have been far better to leave it unoccupied, and place its garrison in the general line at Cavriana; or else, to advance the whole of the line of battle, making the hill the centre, and connecting the wings with it, so that the Austrian left wing would have occupied the ground on which the French are represented in the plan. And in all cases, even when no positive advantage is to be expected from holding an advanced post, the consequence of leaving it as cover to the enemy must form a main consideration in deciding whether to keep or abandon it.

Another case in point is the line of slightly-fortified posts occupied by the Turks in front of Balaklava. Their distance from the army was far beyond cannon-range, and they were captured in a moment, with their armament, in presence of the Allies, at the first attack.

When well placed, points of this kind in front of the line enable the defender to mass his troops at the proper time for a counter-attack, and launch them, with a comparatively short distance to traverse, against the enemy. And should they, feebly occupied and defended, be captured, they give to that enemy the same advantages for renewing his attack. For these reasons most great battles are marked by bloody episodes, where advanced posts like Hougomont, Solferino, Ligny, and the two Arapiles at Salamanca, are the objects of contention. Yet, because these attacks are so costly, great commanders like Frederick and Napoleon have avoided them whenever such evasion was possible, preferring to drive out the garrisons by a concentrated fire of artillery; or, if the posts stood far asunder, to push the attacking columns in between, masking them meanwhile by demonstrations.

Whether points of this kind, villages, woods, &c., in the *actual line of battle* are advantageous, must depend on particular circumstances. Unity of direction is of high importance to the defence, and whatever isolates troops and offers obstacles to their concerted action, is so far a disadvantage; therefore villages difficult of access by the defenders, and woods having few paths and dense undergrowth, though strong in themselves, may yet impair the total strength of the position. Should the enemy gain a footing in them, they give him strong support in his efforts permanently to sunder the line; while, if the line be broken elsewhere, the troops occupying such points are frequently cut off. Villages, the materials of which are combustible, as wood and thatch, will certainly be set on fire by shells, and cause disastrous confusion. On the other hand, the fences surrounding villages and the borders of woods, offer shelter both from view and from fire, and may be easily converted into formidable obstacles, assailable only with heavy loss, and driving the enemy to seek a vulnerable point elsewhere; and if so situated that the fire from them protects the intervening ground, they may enable the defender greatly to economise his force. It must be rare to find a position of any extent free from them; and to use them to the best advantage, and to remedy their defects, must generally be an important part of the problem of the defence.

Obstacles on the flanks of the line of battle.

It might at first sight appear that, considering the importance of the flanks of the line of battle, they would be best secured by resting on insuperable obstacles.

FORMATION OF THE LINES
OF BATTLE AT AUSTERLITZ.

PLAN 15.

For instance, in taking post at Montebello or Casteggio, an army might rest one flank on the Po, the other on the mountains. But (even granting that the army properly fitted the intervening space) a skilful general would find himself deprived of much of the latitude for manœuvre which it should be one of his chief aims to preserve, and the battle would be so far reduced to a contest of sheer strength. Moreover, in case of the front being broken, the fragments of the line would be liable to be thrown back on the obstacles and destroyed, as happened to great part of Tallard's army, hemmed against the Danube at Blenheim; and had the Allies pushed vigorously their success at La Rothière, Napoleon's right wing resting on the Aube at Dienville might have been compromised in the same fashion.

The best supports for the flanks are therefore such as leave them free: defensible posts, like those already described as strengthening the front of the line, will also most suitably protect the flanks; an isolated hill, a small wood, a strong building, a village, or a field-work armed with heavy guns, will all fulfil the purpose; and if two such posts exist near together, mutually flanking each other, the flank should be, with ordinary precautions, secure.

Some examples of the actual adaptation of troops to ground will render this part of the subject clear. At Austerlitz, not only were the French tactics at the climax of their excellence, but they came into direct collision with the tactical system of Frederick. Waterloo shows us the dispositions made for enabling troops, partly British and partly foreign, to resist the attacks of columns, when the system of attack by columns had reached its extreme development. And at Woerth contemporary armies contended with breechloaders, in a chosen position; but the late war affords no good example of the occupation of ground, and the one selected, though as good as any, is far from satisfactory.

N.B.—In computing the proportion of infantry to space in the two first battles, the former lateral allowance of 21 inches is given to each man.

FORMATION OF THE LINES OF BATTLE OF AUSTERLITZ. Plan 15.

The Russians, approaching from Olmutz to Brunn, found the French army barring their path on the Goldbach. They were under a false im-

pression that Napoleon's line of retreat must be the road Brunn-Vienna, and that, cut from that, he would be ruined.

He, however, did not rely on it, but on the line Brunn-Pilson, through the Bohemian mountains to Ratisbon. Seeing the error of his opponent, he had not hesitated to place the main strength of his army towards the Olmutz-Brunn road, inviting, as it were, an attempt to cut him from Vienna.

Allied plan of operation of the left,

The plan of the Russo-Austrians was, to move their left in three columns to Tellnitz, Sokolnitz, and the Chateau. The fourth column, or centre of the army, in rear of the third, on the road Austerlitz-Pratzen, was to cross the Goldbach at the defile of Kobelnitz. The right of the French army being presumed to be thus turned, the columns were to wheel to the right, so as ultimately to occupy the ground between Turas and Schlapanitz.

right,

Meanwhile, as it was expected that Napoleon would attack along the Olmutz road during the movement, the right of the Allies was drawn up across that road; and as no point of support for the right flank was found nearer, it extended to the heights of Kowalowitz, the left being in Kruh. This right wing, under Bagration, was to co-operate in the general attack that was to take place after the expected turning of the French right, by advancing through the defiles of Schlapanitz, Bellawitz, and Kritchen, when the whole Allied army would be reunited before Brunn across the angle of the Olmutz and Vienna roads, extending from Kritchen through Latein to the Schwarza, and pushing the French northward on the mountains.

centre.

To unite Bagration's left with the centre during the movement, 82 squadrons under Lichtenstein were to extend from Kruh to Blasowitz.

The business of the Allied right was then to menace and contain Napoleon on the side of the Olmutz road while his right should be turned; and then to join in the attack by advancing westwards, while the left wing advanced northward.

The movements of the Allies were made with so little disguise, that this general plan was evident on the afternoon before the battle, when the columns of their left wing were already approaching Tellnitz and Sokolnitz; and Napoleon, further certified of their position and intention by several reconnaissances, issued that evening to his army the famous bulletin in which he prophesied the events of the morrow.

The valley of the Goldbach, low and marshy, is apparently passable for all arms only by the roads marked on the map, though no doubt infantry might find many other points of passage. Description of the field.

Low hills, forming advantageous points for defence, crown the undulations of the field; but the highest ground is the plateau around the village of Pratzen, the faces of which slope downward to the Goldbach from Sokolnitz to Blasowitz, and on which stand the two hills of Stari Winibradi and Pratzen.

Napoleon's infantry was in 4 corps, those of Lannes, Soult, Bernadotte, and Davout, and a reserve of a division of the Imperial Guard, and another of grenadiers; each corps 2 divisions; each division of 10 battalions (except Bernadotte's, which were 9)—the battalions averaging 550 men. Two battalions formed a regiment; 2 regiments a brigade of the line; the other 2 battalions of the division were light infantry. French organisation and force.

The divisions may be taken as 5500 strong. The cavalry regiments were nearly all of 3 squadrons each; and 100 to 120 men formed a squadron. There were 41 regiments in the field, being 123 squadrons, 14,000 in all—about one-fifth of the total force.

12 guns were attached to each infantry division;

6 to the cavalry of each corps;

12 to the cavalry of the Guard;

12 formed a separate reserve;

15 with the reserve cavalry.

Soult's and Davout's corps and the Reserve had each a brigade of 2 regiments of cavalry attached; Bernadotte's and Lannes's corps each a division of 4 regiments. The cavalry brigade of Davout's corps was absent. Soult's replaced it, and Bernadotte's was attached to Lannes for the occasion.

There was a reserve of 66 squadrons under the orders of Murat, not counting 18 squadrons detached with Davout on the Vienna road.

The proportion of field-artillery was $2\frac{1}{2}$ guns to 1000 men.

From the Olmutz road (following the Goldbach) to Tellnitz the distance is about $7\frac{1}{2}$ miles—far too extensive for the numbers of the French to occupy continuously on two lines, especially as their formation was three deep. French plan and dispositions for

operation of the right,

From Kobelnitz to Tellnitz Napoleon only meant to hold the defiles; therefore here he posted very few troops, viz.:—

3 battalions in and around Tellnitz;

2 in the village and castle of Sokolnitz;

1 brigade of cavalry between Tellnitz and Sokolnitz, to watch the course of the stream and assail any troops crossing there;

A brigade of infantry before the defile of Kobelnitz in two lines—the first deployed, the second in column; and a battalion behind the defile.

Thus more than half the line of battle was occupied by 1 division of infantry and 1 brigade of cavalry, to be supported by the other division of infantry and a division of cavalry, then five miles distant on the Vienna road: when all had assembled, this part of the line would be guarded by Davout's corps and 24 squadrons (for, besides Soult's cavalry, a division of reserve cavalry was serving with Davout), less than one-fifth of the total force. And the business of this part of the army was to be purely defensive, and to retard the columns of the Allied left wing.

centre,

Napoleon's design being to attack the heights of Pratzen, and his whole plan of battle hinging on a first success there, he had placed between Puntowitz and Girzikowitz (2000 yards) the corps of Soult, and backed it by Bernadotte's.

left.

From Girzikowitz to the Olmutz road, 2000 yards, where the part played was to be at first defensive, Lannes's corps was placed by divisions, each on two lines, by brigades, one deployed, and the other in quarter-distance column of battalions at deploying intervals. The hill called the Santon, which covered the left, was fortified, armed with 18 heavy guns, and occupied by a light-infantry regiment. In rear of Lannes was placed one division of the reserve (the Guard); the other was behind Girzikowitz, in such a position as to support either Soult or Lannes.

Distribution of artillery and cavalry.

The divisional artillery of the left wing was in the intervals of brigades.

The cavalry of Lannes's corps was in advance of the left, between Bosenitz and the Olmutz road.

The reserve cavalry, whose sphere of operation was to be the Olmutz road and the plain on each side of it, was drawn up behind Lannes's corps, all the cavalry divisions being formed by two lines of regiments in column of squadrons, and one division being in reserve.

But the line of battle could scarcely be considered as developed till the

centre had advanced in order of attack. The movement was begun at nine in the morning. Soult's divisions crossed the Goldbach and formed across the space in advance of a line drawn from Puntowitz to Girzikowitz. Each division had a brigade in first and a brigade in second line, and both lines were formed in columns of battalions by divisions of a fourth of a battalion, at half distance, and at deploying intervals—the regiments of light infantry, in skirmishing order, covering the advance, and being destined to join the first line at the moment of attack. Formation of the columns of attack,

The corresponding formation of British battalions would be either double column of companies, or grand divisions, at company distance, with 4 battalions of light infantry as skirmishers.

Bernadotte's corps, during Soult's advance, was drawn up in contiguous close columns of regiments (its divisions were of 3 regiments, each of 3 battalions). of the supports,

As the direction of Soult's advance would cause a considerable interval between his corps and Lannes's, even though the latter should also advance, Bernadotte was not to follow Soult directly, but in such a way as ultimately to extend in a single line of 18 battalions in column, at deploying intervals, from behind Soult's centre to beyond Blasowitz, and the divisions of reserve, in contiguous columns of regiments, were to follow Bernadotte. and reserves.

At eight o'clock Bagration threw his right forward towards Bosenitz. To meet the movement, Lannes advanced, making a movable pivot of his left, which approached Bosenitz, the space thence to the Santon being occupied by the corps-cavalry (12 squadrons). The movement was masked by Kellermann's 12 squadrons in front of the right division, as the advance of the Russians was by a line of Cossacks. Kellermann advanced in a line of regiments in column of squadrons.

Two Russian battalions had just entered Blasowitz when they were attacked by 4 battalions of the right of Lannes's corps, whose right flank was covered from Lichtenstein's cavalry by 18 squadrons of the reserve. At the same moment a battalion detached from Soult's left turned the village, which was taken, and a battalion captured in it.

The 18 squadrons were moved forward to cover Soult's left pending the extension of Bernadotte's corps.

This hour, then—nine o'clock, when both armies, moving offensively,

were ready for the shock—is the proper time at which to review the lines of battle.

Proportion of troops to ground at the commencement of the battle.

From the chateau of Sokolnitz to Tellnitz, 3000 yards, only 8000 infantry and 2600 cavalry, with 24 guns, were destined to oppose the advance of 30,000 infantry and cavalry, with thrice or four times the number of guns. But the duty of the French troops here was strictly that of a *retarding force*. They were to delay the heads of the columns, to cause them to deploy, to retreat before they were themselves fatally compromised, and to assume new positions, always leaning on the centre, to which they were linked by the brigade before Kobelnitz. The battle in this quarter was altogether a struggle for the defiles, in which only the heads of the enemy's columns were brought to bear, and a small opposing force, therefore, fulfilled its object. The nature of the ground between Kobelnitz and Sokolnitz would prevent the enemy, however successful he might be on the French right, from falling on Soult's flank. It was one of those cases, already discussed, where an obstacle separates the columns of attack, but not the opposing troops, since the French remained connected by the defile of Kobelnitz. During the action Davout brought up his second division, directing one brigade to the south, the other to the north, of Sokolnitz, thus connecting the parts of his first division and enveloping the heads of the Allied columns. The division of cavalry had preceded the infantry.

On the left the ground was open; the enemy could bring his force to bear, and his success there would be disastrous to the French; therefore the ground was carefully occupied. The space from the Santon to Girzikowitz is 2000 yards. It was occupied by 11,000 infantry, 24 guns, and 12 squadrons (about 1300 horse).

11,000 infantry, 3 deep, in two lines, occupy . .	1100 yards.
12 squadrons, deployed on a front of 6 squadrons, .	385 ,,
24 guns, ...	480 ,,
	1965 ,,

The force, then, was perfectly suited to the space.

From Blasowitz to Pratzen is 3000 yards. In the proportions of the left, it would have been sufficiently occupied by 17,000 infantry, 2000 cavalry, and 36 guns; but into this space were sent 32,000 infantry,

with more than 2000 cavalry (18 squadrons and the cavalry of the Guard) and 84 guns. As they pushed on, in the progress of the battle, these troops extended more and more, always resting their right on Kobelnitz, till the two corps of Soult and Bernadotte formed but a single angular line, with the corps of reserve still massed in their rear, and the 84 guns of the three corps placed in great batteries, on commanding ground, in intervals of the line.

Allied forces.

There is great difficulty in estimating the Allied forces at Austerlitz— probably there always will be in the case of a defeated army, unless it wants to prove its decided inferiority; but it seems to be admitted that the three columns of the left wing numbered 30,000, and that the centre or fourth column was under 15,000. There remain to be accounted for the corps of Bagration, the cavalry of Lichtenstein, and the Russian Guard. These number together 22 battalions and 140 squadrons, 15 of which were Cossacks, out of a total of 115 battalions and 172 squadrons.

The fourth column was composed of 27 battalions—12 Russian, 15 Austrian. The first column, of 30 Russian battalions, 32 Austrian and Cossack squadrons, was not more than 15,000 strong, admitting it to be double the strength of the second or third. It will be a liberal estimate, then, to assume 550 as the strength of the battalions, and from 80 to 90 as the strength of the squadrons, which would give 12,000 infantry and 12,000 cavalry for the right wing, and the total force about 70,000, of which 14,000 or 15,000 were cavalry; in fact, as nearly as possible equal to the French force, counting the Cossacks, who, however, were inferior to the other squadrons in line of battle; but the Allied artillery was much the more numerous.

Formation of the Allied left.

The night before the battle, the first column, under Doctoroff, 15,000, bivouacked between Augezd and Klein-Hostieradek, on the road to Tellnitz.

The second column, 7500 infantry (according to a Russian writer), under Langeron, was on the road Austerlitz-Sokolnitz, and was to pass the Goldbach between Sokolnitz and Tellnitz.

The third, under Prybyzewski, 7500 infantry, was on the road Austerlitz-Pratzen, and was to pass at the chateau of Sokolnitz.

These three columns formed the left wing. They appear to have marched through the deep hollow paths leading to the Goldbach on a front of subdivisions—say 20 men in a rank, or 60 in a subdivision. At

full distance the cavalry would extend over 1400 yards of the road, the infantry over at least 2500 yards, the artillery at least a mile; so that if Doctoroff marched by one road, as appears on the plans, his column stretched three miles and a half. The second and third columns, with their artillery, would each stretch nearly two miles.

The fourth column was in rear of the third on the road Austerlitz-Pratzen, and the Russian Guard behind it on the same road.

Bagration's corps was between Kruh and Kowalowitz across the great road.

Next day, at dawn of a December morning, the left and centre resumed their march. Doctoroff, Langeron, and Prybyzewski were to pass at Tellnitz, Sokolnitz, and the Chateau, and to turn northward on Turas and Maxdorf; the fourth column (Kollowrath's) was to advance on Kobelnitz, pass there, and form line with the others.

The great mass of the cavalry had followed Doctoroff; but to fill the gap which the march would leave between Bagration's left at Kruh and the centre at Pratzen, this cavalry, Lichtenstein's, was ordered now to march and take position between Kruh and Blasowitz. One of the incidents which generals should always guard against by their previsions now occurred; for the cavalry crossed the path of the second and third columns, forcing them to halt, and was then stopped itself by the march of the centre.

Doctoroff was separated from Langeron by about a mile, Langeron from Prybyzewski by about 1500 yards. There was no communication between them. And when the left wing should have fulfilled its purpose by crossing the Goldbach, the distance from Sokolnitz to Blasowitz, 7000 yards, would be occupied only by the central column of 15,000 infantry.

Formation of the Allied right,

To support Lichtenstein, the ten battalions of the Russian Imperial Guard echeloned themselves in his rear on two lines, with the cavalry of the Guard on their flanks and in rear.

Bagration, placing three battalions in the villages of Kruh and Holubitz, and extending his Cossacks in front, formed his other nine battalions in two lines. He had to fill a space of about 2000 yards. His force would give only 900 men for the front rank, who would fill only 525 yards. He therefore placed five battalions in first line, and his cavalry

in rear extended beyond the right wing of the infantry. His 18 guns would occupy 350 yards.

At the moment of collision, then, the Allies extended thus—

From Kowalowitz to Kruh,	2,000	yards.
,, Kruh to Blasowitz,	2,000	,,
,, Blasowitz to Pratzen,	3,000	,,
,, Pratzen to Sokolnitz,	4,000	,,
,, Sokolnitz to Tellnitz,	2,000	,,
	13,000	,,

or seven miles; and in the central *half* of that line, far too extensive as it was for their numbers, they had not *a third* of their troops.

When Soult attacked the plateau, Kollowrath's column, holding Pratzen with its left and the hill of Stari Winibradi with its right, formed on two lines. Five battalions, being the rear of Langeron's column, hearing the conflict, marched to the plateau, and, extending on Kollowrath's left, were opposed by the French brigade (Levasseur's) advancing from before Kobelnitz. Lichtenstein sent ten squadrons to Bagration to maintain communications between them, and two battalions of the Guard occupied Blasowitz. and centre.

On the left we see 11,000 French containing 28,000 Austro-Russians, who with varying fortune continued to advance. Proportions between different parts of the opposing lines.

On the centre, 17,000 Allied infantry are opposed by the three corps of Soult, Bernadotte, the Guard, and Levasseur's brigade of Davout's corps, 34,000.

On the other wing, the Allies oppose about 8000 infantry and 11,000 cavalry to 11,000 infantry and 11,000 cavalry.

In the next stage of the battle, the Allied centre being driven back, the Russian Guard comes into the space between it and Lichtenstein; and on the French side, Bernadotte extends in first line, while the Guard and Grenadiers in column form second line to him and to Soult; and the superiority of numbers on the centre and wing tells more than ever.

Finally, the victorious centre (Soult and the reserve) falls upon columns one, two, and three in flank, while Davout attacks their front, and they are forced into and beyond the lakes.

Employment of the artil-

Though the Allied artillery is said to have been very numerous (Jomini

lery on both sides.

places it at 330 guns), not more than 200 can be accounted for in the action.

Bagration brought 20 to 24 to bear on Lannes, who could reply with 36 (24 of the infantry, 12 of the cavalry).

Lichtenstein placed 40 guns in battery, opposed by 39—viz., 15 guns of the reserve cavalry and 24 of Bernadotte. Altogether, in this quarter, 75 against 60 to 64.

The Russian Guard appears to have brought only 4 guns into action (though its artillery force may be placed at from 24 to 30), opposed by 12 of the Guard in action.

The fourth column (Kollowrath) placed 18 guns in battery, opposed by 24 of Soult.

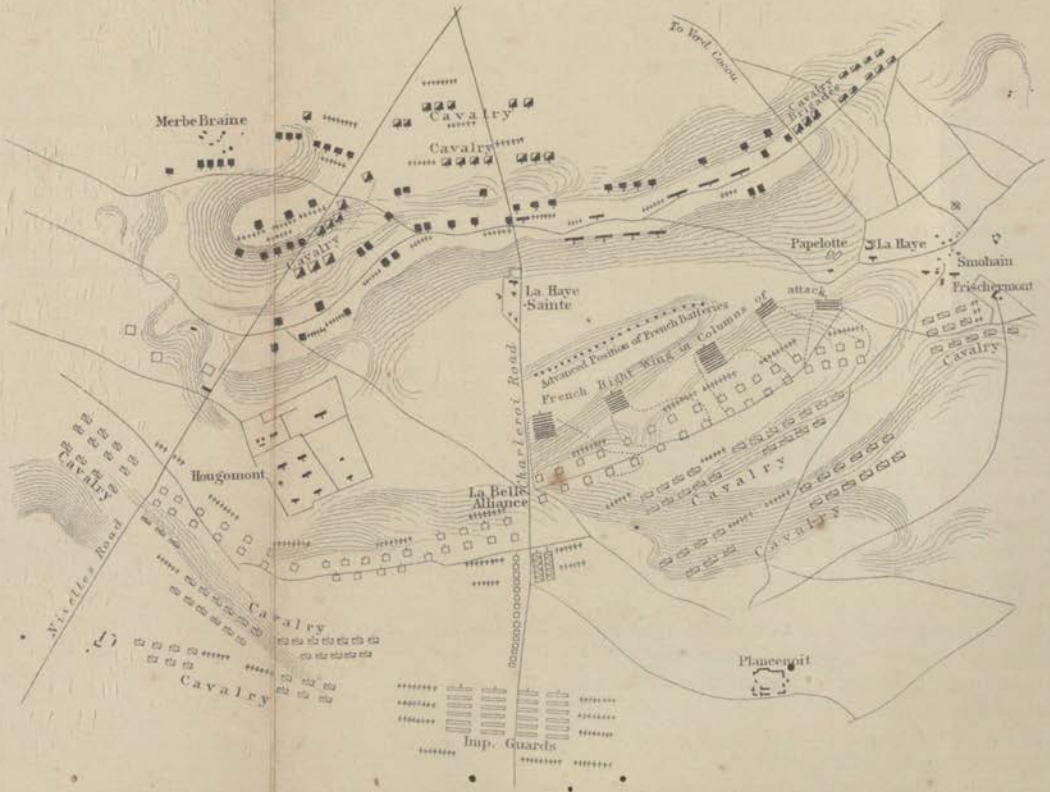
The first, second, and third columns seem each to have brought 12 guns into action, opposed finally by 24 of the infantry of Davout, 6 of the cavalry, and 6 of the reserve artillery.

Finally, at the close of the battle, Doctoroff assembled, from the wrecks of the three columns, 50 guns, opposed by 24 of Soult, 36 of the reserve, Davout's 24, and 6 of the cavalry.

It appears, then, that the Allies never brought their superiority in guns to bear in any part of the field, and that a great proportion of them were following the left wing for the anticipated battle beyond the Goldbach, or placed in reserve behind the centre; and that most of those belonging properly to the columns of the left wing were, from their position in rear of the infantry, only available after those columns were attacked in flank by the French centre.

Besides the want of connection, and consequently of co-operation, throughout the Allied line, and the numerous flanks exposed by its intervals, the cavalry formed of itself a large portion of the line of battle, and the small reserve was also brought into first line to close the gap between Lichtenstein and the centre. Thus there was no general reserve, whereas on the French side the grand reserve was almost untouched at the close of the action; for so well had the different arms supported each other that a reverse sustained by any was immediately remedied by the co-operation of the rest, and the centre was brought to bear upon successive portions of the enemy which, together, would have outnumbered it.

FORMATION OF THE LINES OF BATTLE AT WATERLOO



FORMATION OF THE LINES OF BATTLE AT WATERLOO.

Plan 16.

Description of the field.

From the Nivelles road to the lane which runs between Verd-Cocou and the farm of La Haye, the British position is defined by a ridge, which on the British right ends abruptly in a ravine, but on the left loses itself in a plateau. A gentle continuous slope descends from the front, and again rises to the opposing ridge occupied by the French.

In front of the British right are the farm and grounds of Hougomont, the rear boundary of which is 200 yards from the British line. La Haye Sainte is 300 yards in front of the centre.

On the right of the Nivelles road the ground is broken: the hollow road thence to Braine l'Alleud was occupied by skirmishers having supports in rear.

On the left, where the English ridge, spreading outwards, joins that occupied by the French, are several defensible points—Papelotte, La Haye, and Smohain—from 600 to 800 yards from the line.

The hollow road occupied by skirmishers, the enclosure of Hougomont, the farm of La Haye Sainte, and the points Papelotte, La Haye, Smohain, are the outposts.

The line of battle extends from the Nivelles road immediately behind Hougomont on the right, to the extremity of the plan, towards Wavre, on the left, and is coincident with the cross-road from Wavre which traverses that space. Following the line, from the extreme left, to the right of the outposts covering the right, the distance is 3 miles.

Wellington had 50,000 infantry, 12,400 cavalry, and 156 guns.

Occupation of the outposts.

The entire enclosure of Hougomont is about 500 yards square, the buildings, garden, and wall being the strongest part for defence. The post was occupied at first by 1200 men.

La Haye, the enclosure of which has a front of only 80 yards, was occupied by between 300 and 400 men.

In the buildings in front of the left, Papelotte, &c., and in support, were placed 3200 infantry.

In the hollow lane from Hougomont to the extreme right, and in support, 1200 infantry.

The outposts were thus occupied by 6000 infantry.

Wellington's reserves were posted entirely behind the right and centre; and about 13,000 infantry were assembled there.

British line.

Therefore about 31,000 remained for the line of battle, which, from the Verd-Cocou lane to the Nivelles road (a space occupied entirely by infantry), is about 2 miles, or 3500 yards; and as there were 20 battalions in each line, the front line would be 15,500 strong, of which 13,000, being British or Anglo-German troops, would be formed 2 deep, and the Dutch battalions 3 deep. The light companies sent out in front as advanced posts and sentries would reduce the force by one-eighth—which would then require 3700 yards, not counting intervals between the battalions. Therefore the first line must have been intended, either in whole or in part, to stand on a deeper formation than that of two ranks; and in fact we find the right wing forming 4-deep in the battle.

Distribution and formation of the cavalry.

On the left, where the ground was level and the flank exposed, two brigades of light cavalry, numbering 2500 sabres, one-fifth of the force, were placed. Of these, that on the left was deployed on two lines, one of 8 and one of 4 squadrons; the other was in a line of columns of regiments by squadrons.

Immediately in rear of the right, ready to operate along the Nivelles road, were two brigades, and two regiments of light horse, between one-third and one-fourth of the cavalry.

Behind the centre, on each side of the Charleroi road, were the two heavy brigades, about 2000 strong, or about one-sixth of the force.

Four brigades of cavalry, in all about 4000, were held in reserve.

Most of these brigades were formed in close column of regiments by squadrons at deploying intervals: the brigades immediately supporting the infantry were from 100 to 200 yards in rear of the second line; the reserve cavalry about 450 yards in rear of that line.

Distribution of the artillery.

Of the 140 guns present at the beginning of the battle (16 previously detached arrived during the action), 6 were with the cavalry brigade on the left; 50 others, in batteries of 4 or 6 each, were posted along the downward slope in front of the deployed battalions, or between the columns, but filling of themselves no lateral spaces in the general line; 12 were with the first reserve, posted in rear of the right; 38 with the brigades of cavalry in rear of the centre and right; and 34 in reserve—

or, generally, a third in first line, a third immediately in support, and a third (counting the 16 that arrived subsequently) in reserve.

Part of the first line, and the whole of the second, with all the brigades of cavalry except the two on the left, were screened from observation, and partly from fire, by the reverse slope of the ridge.

The centre of the French position at La Belle Alliance was 1400 yards from Wellington's centre on the highroad. Following the ridge, the wings approached nearer—the outposts almost touching on the right, and the French left being about 600 yards from the extreme right of the British, and the enemy in front of Hougomont being about 300 yards from its front boundary.

French line.

Like his adversary, Napoleon placed 31,000 men in two lines along the ridge. The corps on the right extended from the Charleroi road to a point opposite the English left; and the French being formed 3 deep, the interval was just sufficient for the deployment of 16,000 men in that formation, with 6 yards between battalions and 50 yards between divisions. The space between the lines was 60 yards.

From La Belle Alliance to the Nivelles road the corps on the left, 15,000, was drawn up in precisely similar formation.

On the left of the Charleroi road, 100 yards behind the centre, were two divisions, together 5000 strong, drawn up in mass of battalions, on a front of grand divisions (2 companies).

Half a mile in rear of the general line, the infantry of the Guard, 11,000 strong, was drawn up—24 battalions being disposed in column on a front of 2 regiments (4 battalions), the 6 lines of the column being at 20 yards' distance from each other.

Distribution and formation of the cavalry.

On the flanks of the line two brigades of cavalry were drawn up—that on the right, 11 squadrons, 1400 men, having 3 squadrons in front line, 3 in second, and 5 in the third. That on the left, 15 squadrons, 1730 sabres, having 4 squadrons in first line, 4 in second, 7 in the third.

The French squadrons averaged 110 sabres—those of Wellington's force, from 75 to 100.

Two hundred yards in rear of the second line of French infantry, 2 corps of cavalry were placed, one behind the centre of each wing; 24 squadrons on the right, under Milhaud, 24 on the left, under Kellermann. These corps were deployed on two lines, 60 yards apart.

Two hundred yards in rear of these were placed the two cavalry divisions of the Guard, also deployed on two lines; that on the right numbering 19 squadrons, that on the left 13.

Alongside the infantry divisions which were behind the centre, and on the other side of the highroad, two cavalry divisions, one of 9, the other of 12 squadrons, were drawn up, each division in mass of regiments on a front of a squadron.

Distribution of the artillery.

Napoleon brought 246 guns to the field. Of these, 84 were in the front line; 36 with the cavalry, in rear of the wings and centre; 30 with the infantry, in rear of the centre; and 96 in reserve, with the infantry and cavalry of the Guard. Each corps of infantry and each division of cavalry had a horse-battery of 6 guns attached—therefore, of the total number, 90 guns were of the horse-artillery. Except the batteries with the cavalry on the flanks, the guns were not in extension of the line, but down the slope in front of the infantry.

It is evident, then, that Wellington's dispositions were made with special regard to the defence of his right—not only because of his rooted expectation of an attack on that side to sever him from Ostende, but also because he expected his left to be strengthened by the arrival of the Prussians from Wavre.

Napoleon, by the massing of his infantry in rear of the Charleroi road, and the disposition of his cavalry, holds his forces disposable for the attack of the centre and *either* wing.

Choice of points of attack.

His object being to sever Wellington from Blucher, *the centre and left* of the British were the points he designed mainly to attack; but, with the strong post of Hougomont so close to his left, it would be manifestly unsafe to cast his weight immediately on the other side of the field; therefore the battle commenced with an attempt to gain that important post. But, first, the inspection of the line by Napoleon being completed, the infantry, which had been deployed, in order to produce an effect on part of the Allied troops, formed columns of battalions; Kellermann's guns reinforced the front line, where 50 pieces now opened on Hougomont and the British right, and 18 guns from Wellington's right reserve came into front line.

Dispositions for attack and defence.

For the attack of the Allied left wing the 46 guns of the French right wing were reinforced by 16 from the centre and left, and 12 from the

cavalry in rear, and placed on a rising ground between the hostile wings, 600 or 700 yards in advance of the line. The 4 divisions of the French right wing formed at first but 4 columns, on a front of battalions; afterwards, the right column was divided in two for the attack of Papelotte. A division of cavalry was brought from Kellermann's corps to support the attack, advancing along their left of the Charleroi road.

The Dutch-Belgian troops, in first line of the British left wing, having retreated before the 2 left columns of attack, the British troops from the Charleroi road leftwards formed a 2-deep line, and the English heavy cavalry were brought to the front, and a brigade from the reserve. One brigade attacked the French cavalry, the other the flanks of the columns; and this other was met in turn by the light cavalry on the right of the French line, and these, again, by the 2 brigades on the British left. A brigade of infantry was brought into second line on the British left from the reserve.

The French right having been not only defeated but disabled in the repulse of its attack, Napoleon, while still continuing to assail Hougomont, directed his next blow against the centre. But, meanwhile, the heads of Blucher's columns appearing from Wavre, the whole force of infantry and cavalry immediately behind the French centre, and in front of the Guard, was directed to the right to oppose the coming foe.

The squadrons on the left of the French line confined themselves to demonstrations of an advance. Nearly the whole of the infantry of the left wing assailed Hougomont, penetrating the outer enclosures, and extending along the eastern boundary. The two battalions on the right of the British front line were thrown into the post, and Brunswick battalions from the reserve were brought to fill their place.

Two columns from the left of the French right wing advanced upon La Haye Sainte.

Into the large space between the Charleroi road and Hougomont, laid open by the forward movements of the French wings from their inner extremities, the whole of the cavalry in rear of the right wing, 43 squadrons, now advanced. The battalions of Wellington's right wing formed square to receive them. Their repeated onsets failed to break the infantry, and numerous encounters took place between the French and Allied cavalry in the intervals of the squares.

The whole of the cavalry in rear of the French left wing was added to that of the right, 80 squadrons in all, for a renewal of the attack. All these efforts were preceded by a concentrated fire of the French artillery on Wellington's right. The cavalry was again repulsed.

Two British batteries from the reserve were brought into front line on the right wing, and two brigades of infantry were brought from the reserve of the right into front line, extending from the rear boundary of Hougomont to the crest of the position. When these troops deployed for action they formed four deep. By this change of the line of battle its right now rested on Hougomont, and formed an enclosing angle with the general front.

Final order of battle of the French.

In the final grand attack, the French line had assumed the following aspect:—

The cavalry on the left still merely threatened to advance, as a diversion.

The left wing, attacking Hougomont with its left and centre, threw forward the columns of its right beyond the eastern boundary.

The French right wing threw forward its left columns against La Haye Sainte, and captured the post. From thence its battalions, in columns, extended backwards to the original crest of the position; those on the right fronting towards the outposts on the Allied left, and joining the left of the French troops sent to oppose the advance of Blucher between Smohain and Plancenoit.

Into the interval between La Haye Sainte and Hougomont the remaining battalions of the Imperial Guard, 11 in number (the rest had been sent to aid the force opposing Blucher on the right), now advanced. Two of these were left on the crest of the position as a last reserve: nine formed two columns, one of 4 and one of 5 battalions, drawn up in rear of each other on a front of a battalion. Preceded by numerous skirmishers, and by a fire of artillery, these last reserves advanced upon the British right wing between Hougomont and the Charleroi road. When they reached the crest of the British position they formed the apex of the French line, which thus presented the general formation of an army echeloned on its centre.

The British cavalry brigades on the left were brought along the rear of the second line to the rear of the centre of the right wing; and when

the Guard was repulsed, they supported the advance of the British right, which, joined with the *direction* of the Prussian attack, decided the battle.

FORMATION OF THE LINES OF BATTLE AT WOERTH. Plan 17.

Description of the field.

The Sauer is about 20 feet wide, and, being swollen by rains, was, on the 6th August, about 6 feet deep. It runs through a valley of meadows, from 300 to 1200 yards wide, wet, but passable by infantry. On each side the ground rises by steep slopes to about 300 feet above the valley. The hills form at the summits small plateaus, which round and lose themselves in depressions, forming the heads of ravines that indent the slopes down to the valley of the Sauer.

The main French position lies between the Sauer and the Eberbach, which flow about 1½ miles apart. From Neehwiller on the left to the height above Morsbronn, where the right rested, is about 4½ miles.

The centre of the French position is marked on the left by a ravine, commanded by the village of Froschwiller; on the right by the wood (Nieder Wald), which, from about 400 yards south of Elsashausen, stretches down the slope till its lower border skirts for some 350 yards the Woerth-Hagenau road. The ground in this part of the position is mostly open, and adapted for the manœuvring of all arms. The plateaus are nearly level with the opposing plateau of Dieffenbach. Woerth is not seen from the heights on the French side, except from the spur on the right of the ravine between that village and Elsashausen, where there is room only for a battery; consequently Woerth was only to that extent defended from infantry attack by the artillery on the heights.

The Nieder Wald hid Elsashausen and Gunstett from each other.

The left of the French position extended from Froschwiller along heights indented by ravines which open into the valley of the Sulz. These heights had a considerable command over the opposite slopes, which were open and bare. A wood stretches from the left of Froschwiller over the slopes to the bend of the Sulz valley.

From the Nieder Wald south the main crests retain their altitude, and command the heights near Gunstett, till opposite Morsbronn, where they turn back, and fall, by easy slopes, into the low ground at Hegeney.

Bridges.

The only standing bridge opposite the centre was that of Woerth. There were several over the Sulz at Langensulzbach, and one between that village and the junction of the streams, all leading up to the French left. Opposite the French right there were two issues from Gunstett, one at Bruck Mill, the other passing the Sauer and Biber below the fork of the streams.

Lines of retreat.

The main line of retreat lay from Froschwiller obliquely behind the centre to Reichshoffen, and thence by a defile to Niederbronn, whence mountain-roads led on Bitsche and Saverne. In the valley behind the French left lies a road leading northward from Reichshoffen on Bitsche. Behind the right, through Gundershofen, is a road which joins the Niederbronn-Saverne road. The road Niederbronn-Gundershofen joins the road which runs through the Woerth valley, at Hagenau.

Prussian position.

The opposite heights, on which the Prussians advanced for the attack, stretch from Gorsdorff to Gunstett, whence they decline into low flat meadows opposite the French right, which completely dominates the ground in front and south of it. The slopes, of 5° to 7,° down which the Germans moved, are smooth and open. At Dieffenbach the high ground advances to the valley; and, separated from this by the ravine at the mouth of which lies Spachbach, is another spur, which approaches the French position above the foot of the Nieder Wald. On the slopes, where not wooded, are vineyards and hop-gardens on both sides of the valley.

The roads were everywhere muddy from the rains.

The Woerth-Hagenau road is raised above the meadows, forming a line of defence for infantry.

French forces.

M'Mahon had 5 infantry divisions (4 of his own Corps, one of the 7th), each of 13 battalions, except his 4th division, which had left a regiment in Strasbourg. The battalions should have been about 670 strong. Three battalions formed a regiment, and 2 regiments a brigade, and 2 such brigades, with the addition of 1 battalion of rifles, a division. The proper strength of a division was about 8700 men; but one division had suffered at Wissembourg, one was short of a regiment, and one had never been raised to its full strength. His full force of infantry cannot have exceeded 36,000.

He had the division of cavalry belonging to his own corps—3 brigades 3500 strong, and Bonnemain's division of reserve cavalry 2000

strong. A regiment was 500 strong; 2 (in one case 3) regiments formed a brigade).

Each division (except that of the 7th Corps, the artillery of which was left behind) had 2 batteries of guns and 1 of mitrailleuses. The corps reserve consisted of 8 batteries (4 horse-artillery); and 1 battery of horse-artillery and 1 of mitrailleuses belonged to Bonnemain's cavalry division. Total, 102 guns, 30 mitrailleuses.

Their distribution.

M'Mahon placed Raoult's division, 13 battalions, in what has been described as the centre of the position; namely, the space from the ravine of Froschwiller to the Nieder Wald, occupying Woerth with about 3 companies.

Ducrot's division (13 battalions) extended on Raoult's left from the Froschwiller ravine to Neehwiller.

Lartigue's division (10 battalions) occupied the Nieder Wald and extended on the heights south of the wood to above Morsbronn. The village was not occupied.

Dumesnil's division (7th Corps) was behind Lartigue's, near Eberbach.

Pellé's (from Wissembourg) was behind Elsashausen.

Ducrot having a strong division, and less space to cover, probably provided his own reserve.

Each of the 3 divisions in the front line occupied about 1½ mile, being about 5000 men to the mile; and there were about 14,000 in reserve; in all, 8000 men to the mile.

A brigade of light cavalry was between Froschwiller and Reichshoffen, 2 regiments of Cuirassiers behind the right, and Bonnemain's Cuirassier division behind Eberbach. The other brigade had been detached, and came in later behind the right.

The ground on the left was unsuitable for cavalry.

The reserve artillery was near Froschwiller. The divisional batteries came into action with their divisions—those of Lartigue on the Lansberg, those of Raoult in front of Elsashausen.

Prussian forces.

The Crown Prince's army consisted of two Prussian corps, the V. and XI.; two Bavarian, the I. and II.; and the Wurtemberg Baden Corps, with its three brigades of cavalry. The Prussian Reserve Cavalry was too far in rear to come into line.

A Prussian corps consists of 2 divisions—a division of 2 brigades, a rifle battalion, a cavalry regiment (600 strong), and 24 guns. Brigades are of

2 regiments—regiments of 3 battalions, each 1000 strong. The reserve artillery of the corps was 36 guns. A Prussian corps numbered 25,000 infantry, 1200 cavalry, and 84 guns; a Bavarian corps 25,000 infantry, 1200 divisional cavalry, 1800 reserve cavalry, and 96 guns.

Commencement of the attack.

The V. Corps bivouacked on the 5th with its outposts in Gunstett and opposite Woerth. A Prussian reconnaissance caused a skirmish, which was taken up by the advanced troops of the II. Bavarian Corps, then approaching Langensulzbach from Lembach; and the advanced-guard of the XI. Corps, in bivouac on the left rear of the V., was brought up to Gunstett. These movements were made independently by the generals in command of the troops closest to the enemy; and as it was not intended to attack M'Mahon till the following day, orders were given to the troops engaged to break off the action. But considerable forces had now been deployed. The divisions of the V. Corps were in line of battle behind each other on the Preuschdorf-Woerth road, and the whole of the corps artillery —84 guns—was in action about Dieffenbach. A division of the XI. Corps had deployed on the left of the V., extending through Gunstett to the bend of the Sauer, and the divisional batteries were in position north of Gunstett.

The other division, as well as a Wurtemberg infantry brigade and a Wurtemberg cavalry brigade, were following in support. The II. Bavarian Corps was bringing a division to attack the French right, and had reached the foot of the slopes on which Ducrot was posted when the order came to stop the fight. At half-past ten a brigade of Dumesnil's division had crossed the streams below Morsbronn and attacked Gunstett, but was repulsed; and at noon two regiments of the V. Corps, passing the Sauer on temporary bridges, and supported by the rest of the division, had stormed and held Woerth. Under these circumstances, the three corps engaged were ordered to resume the battle, the I. Bavarian Corps was directed on Preuschdorf, and the rest of the South German troops followed in the direction of Gunstett.

General attack.

At half-past one the general attack began. The V. Corps advanced from Woerth to assail the heights leading on Froschwiller. On its left a brigade of the XI. Corps passed the Sauer, near Spachbach, on extemporised bridges, and attacked the Nieder Wald; the rest of the Corps (after a second counter-attack by Dumesnil had been repulsed) crossed by the

standing bridges lower down, and (the left flank being covered by the Wurtemberg cavalry brigade) attacked Lartigue on the Lansberg and before Morsbronn, supported by the corps artillery which had joined the divisional batteries in action north of Gunstett; some batteries, however, accompanying the advance. Thus the two Prussian corps were now concentrated in the attack on the French centre and right. The V. Corps made small progress in the attempt to advance up the slopes from Woerth to Froschwiller, and suffered heavily; but the XI. Corps, making good its footing in the Nieder Wald and on the Lansberg, and repulsing a counter-attack from Morsbronn, cut off great part of the French right wing, where Dumesnil, as well as Lartigue, were engaged; and the troops, thus separated, fled in disorder to Hagenau. The right division of the XI. Corps, after pushing through the Nieder Wald, into which reinforcements from Pellé's division had been brought to support parts of the 3d and 4th divisions, wheeled to its right and touched the left of the V. Corps; the front of the XI. now extending from the hill east of Elsashausen to Eberbach. It was during the advance of the left of the corps from Morsbronn that Michel's cuirassiers and some of Nansouty's lancers, to gain time for reinforcing Lartigue, charged between that village and the Nieder Wald, and were almost destroyed by rifle-fire from the houses and woods.

The right division of the XI. Corps, with part of the troops on the left of the V. Corps, supported by a brigade of Wurtemberg infantry, attacked Elsashausen. The left division of the XI. Corps advanced through Eberbach northwards, surrounding Elsashausen on the south and south-west, and menacing the retreat on Reichshofen. It was now that, to gain time for reinforcements from Pellé to arrive, M'Mahon launched Bonnemain's cavalry (which appears to have been withdrawn from its first position to the rear of Froschwiller) into the fight. The scene of the charge was between Elsashausen and the Nieder Wald. It took place over hop-gardens and ground said to be otherwise impracticable, and had no other result than the destruction of great part of the French cavalry. At two o'clock Elsashausen was in flames, and abandoned by the French; and the two Prussian corps and the Wurtemberg brigade now concentrated their efforts on Froschwiller. It was stormed at 3.30; several thousand prisoners were cut off in it, and M'Mahon retreated with the troops he could keep together on Reichshofen, Niederbronn, and Saverne; Retreat of the French.

while fugitives from the wings fled into the Jägerthal on the one hand, and towards Hagenau on the other. Two Prussian dragoon regiments (divisional) and the Wurtemberg cavalry brigade pursued to Reichshofen; a Bavarian brigade and a lancer regiment followed Ducrot's division from Nehwiller through Reichshofen. At Niederbronn a division detached from the corps at Bitsche endeavoured to cover the retreat, but the railway station was stormed by the Bavarians. Night stopped further pursuit.

COMMENTS.

The great superiority in numbers of the Germans deprives this battle of other value, as a tactical study, than is to be derived from noting the respective dispositions for attack and defence under the changed conditions of infantry and artillery fire.

Compared with the examples of preceding battles, it will be seen that M'Mahon occupied a greatly increased extent of front in proportion to his force. Eight thousand men to a mile would barely furnish two lines, two deep, without reserves. Five thousand to a mile would supply one such line, or two lines of single ranks, with a small surplus for the support of particular points, independent of the general reserve. The defence by a single brigade of the slopes in front of Froschwiller against the attack of a whole corps, until success elsewhere rendered that part of the position untenable, shows that local defence has gained enormously under present conditions, and that such an extension, or even one more considerable, is justified in the case of advantageous ground.

The weak point of the position was the Nieder Wald, which extended downward to the valley, while the space between it and the Prussian position was narrowed there by the hill north-east of Gunstett. It was thus comparatively easy to advance upon the part of the position in which it was most feasible to gain and to hold a footing. The facts that a wood, when once penetrated, places assailants and defenders on far more equal terms than they meet on elsewhere, that it enables forces to be massed there unseen, and that, once fully mastered, it affords shelter for the organisation of a fresh advance, must always cause deep anxiety to the general who finds such a feature in his position. The smaller wood which clothes

the slope below Elsashausen being entered and occupied by a Prussian battalion, also afforded great support to the troops which stormed Woerth.

M'Mahon was a little superior to the Germans in cavalry; but though great charges were attempted on the French side, they effected nothing. On the other side, the cavalry appear to have taken no active share in the attack. It is impossible not to note how inferior was the part which the arm played in this battle, compared with its frequent and imposing action on the fields of Austerlitz and Waterloo, nor to infer that the change is due to the increased power of infantry and artillery.

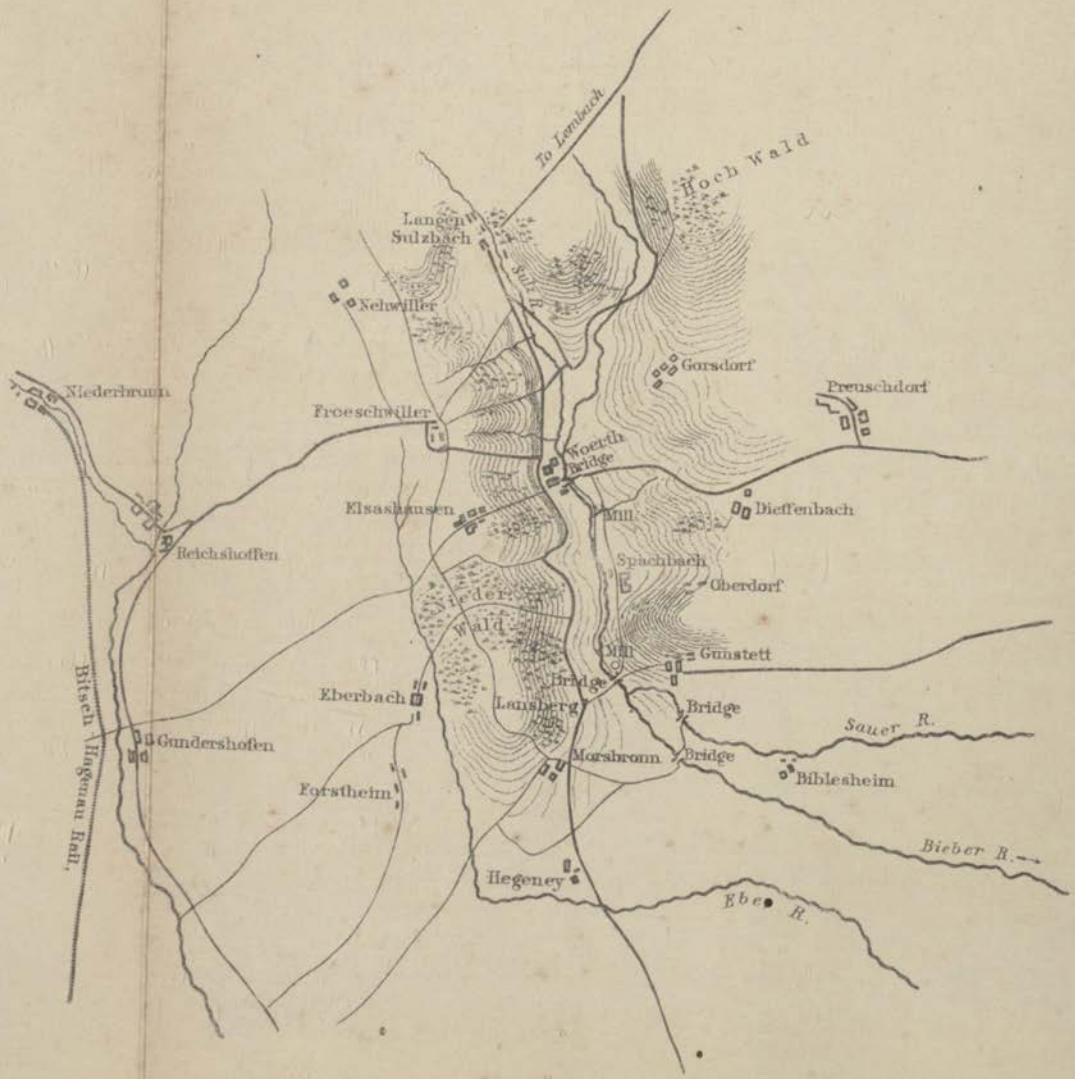
Considering the tactics of the Germans, it seems as if their greatest losses in the battle, in the front attacks on Froschwiller, might have been avoided, and victory equally secured, by confining the attack on this part of the position to demonstrations and the fire of artillery, until the success of the left wing and the envelopment of the French centre were secured. The Prussian justification of such front attacks during a turning movement is, that they hold fast the enemy. In the present case they held fast only one brigade, which could in no case have been spared from that part of the position.

The Prussian artillery acted in masses, and at least 120 guns were arrayed in one great battery on the heights between Dieffenbach and Gunstett. The French batteries came into action piecemeal, without concentration or concert, were speedily overmatched, and their fire, as is always the case with overmatched batteries, grew languid and desultory. The range between the opposing batteries was generally from a mile to 2000 yards.

In the earlier wars of the century the principle is evident, that when divisions acted together they did not form the one the second line to the other, but that each division formed its own first and second line with its own brigades, while the brigades also sometimes formed partly in each line by regiments, thereby simplifying a divisional or brigadier general's task, since he has much better hold of his troops if his command extends in depth rather than in breadth. At first sight it would appear as if this principle were entirely lost sight of by the Germans, who, as we have seen, deployed all the brigades of their corps in one line. But the fact is, that the principle of giving depth rather than extent of front to the units of a force has been extended till it applies to battalions, half-battalions, and even companies. The order in which the Prussians formed

their battalions (of 4 companies) for attack was, two company columns in front, supported by a half-battalion column. This was according to design and instruction; but in the stress of breech-loading fire the companies further dissolved themselves into skirmishers, supports, and reserves—and this disposition, roughly adopted at first from necessity, is now a recognised feature in the Prussian training for the attack. It is evident, however, that the control of corps thus launched into the tideway of battle remains chiefly with the commanders of companies and battalions. The directing influence of generals of all grades is seriously diminished, and with it, possibly, the power of executing skilful tactical combinations.

BATTLE OF WOERTH



CHAPTER IV.

OF ORDERS OF BATTLE.*

Two kinds of tactical advantage defined.

In the preceding chapters two methods have been discussed of gaining a relative advantage over an equal enemy on a field of battle: first, by occupying favourable ground, such as will obstruct the enemy only; secondly, by so combining the different arms, and so adapting them to the configuration of the field, as to obtain from all their full and concerted effect. An army that has secured one or both of these conditions can scarcely fail to beat an enemy of the same force and quality which possesses neither.

Offensive movements must be supported,

But it was also pointed out that the turning of a flank or breaking of a line may be an important step to victory, by producing new relations between the hostile lines; and the methods of accomplishing this have been already discussed and exemplified—namely, manœuvres for turning the enemy, as at Prague; or measures for assembling a preponderating force on some point of the line, as at Austerlitz. But in all cases, to render such conditions of avail, the remainder of the army must be so disposed as to follow up the first successful attacks by advancing to support the troops that have made them, and to prevent the enemy from executing new plans of battle.

and the remainder of the line refused or protected.

When an army whose front is coextensive and parallel with that of its adversary moves altogether to a flank for the purpose of turning the hostile line, the conditions produced are reciprocal,—the outflanker is equally outflanked, and no advantage is gained. This might be illustrated by two *equal* lines placed thus—

* The term is used here with a meaning quite distinct from the formation of the line of battle.

And again, if one of these armies were to reinforce one part of the line at the expense of the rest, it would be exposing other parts of the line to the attack of superior forces, and the result might be merely a partial success on each side, leaving the result still undecided.

Therefore a general who meditates a blow of either kind at his enemy must secure from counter-attack the part of the army with which the blow is not to be made, either by withdrawing it out of reach, or protecting it by obstacles.

Hence, in an attempt to turn or break through the flank of an enemy with one wing, it is essential to refuse the other. And again, in reinforcing part of the line, it is necessary to prevent the rest of it, comparatively weakened for the purpose, from engaging at a disadvantage. Dispositions must be made accordingly for the reinforcement and advance of some parts, and the protection or withdrawal of others. Hence result *Orders of battle*—that is, *certain relations existing between the hostile lines before or during the encounter.*

Hence results a third kind of tactical advantage.

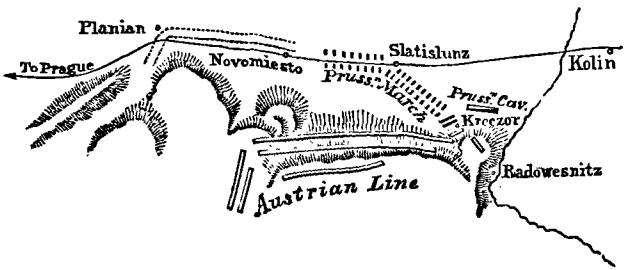
Besides the two methods already mentioned of engaging the enemy with advantage, there is, then, a third—namely, the *Order of Battle*—which will be well or ill chosen in proportion as it is adapted, according to existing circumstances, to produce such relations between the hostile lines as will ultimately place a sufficient part of one of them in *battle array* across the extremity of part of the other. And although some authors have enumerated and described a great variety of Orders of Battle, yet these, stripped of pedantic and fanciful distinctions, resolve themselves into the few which it is the object of this Chapter to discuss.

OBLIQUE ORDERS.

How the oblique order is produced.

An army may attack its enemy in front or flank. If it aims at a flank —say the right—its own right must be refused. Hence, when it arrives on the extremity of the enemy's line, the army will be in oblique order. And as the head of the column will meet the first shock, and as the success of the whole movement depends on its progress, it should be strongly reinforced. This is more especially necessary when the assailed flank of the enemy rests on some impassable obstacle, and must therefore be broken through rather than turned.

And it is also essential that the refused wing should continue refused for a certain time after the commencement of the attack; the disastrous consequences of neglecting this are exemplified in the battle of Kolin. Necessity of preserving the obliquity.



On the 18th June 1757, the Prussians, 34,000 strong, were marching eastward from Planian to Kolin. On their right, on a high ridge, scarcely a hill, was ranged the Austrian army, 60,000, in two lines and a reserve, —their right in a wood, beyond which was a ravine; their front in villages; their left covered by swampy ground. The King, regarding them from a point between Planian and Kolin, judged the left unassailable, the front dangerously strong; but considered that by attacking in oblique order their right flank near the wood, he could break in there and roll up their line. Battle of Kolin.

Zieten, with the greater part of the cavalry, was to march first. Next General Hulsen was to lead 7 battalions at the head of the left wing; and these bodies of cavalry and infantry we may call the advanced-guard. The army followed in two columns—one on the road, the other on the left of the road.

Diverging from the road at Slatislunz, the advanced-guard was to form, and attack the village of Kreczor, and occupy the wood beyond, thus establishing itself on the Austrian right flank. During this attack, the head of the left wing was to slant still more, so as to join Hulsen's right, if successful, beyond the village, or to support him if repulsed. The right wing, following in the footsteps of the left, was to remain refused until the oblique movement should bring it into collision with the enemy's line. Prussians reinforce the head of the attack, and refuse the other wing.

Hulsen's attack succeeded; but, pausing beyond Kreczor to re-form, he found that the left wing was not following him. The attack succeeds, but

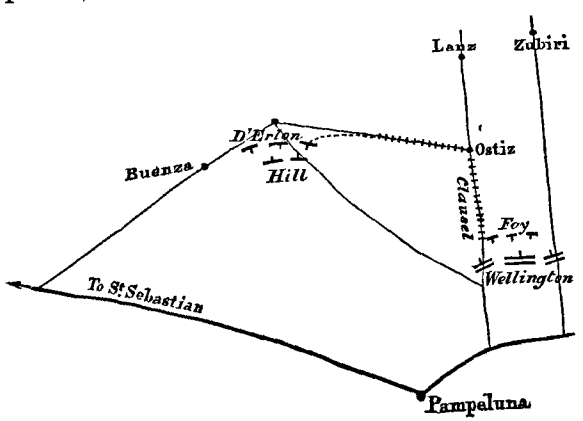
The Croat skirmishers in front of the Austrian line annoyed the Prussians in their march. The battalion 7th from the left of the Prussian left wing formed line, without orders, to repel them. Seeing this, all the battalions of the left wing that followed it, and all the right wing, naturally conformed to the movement, for the left was the directing wing. Wheeling up, they formed line and attacked, and the oblique order disappeared.

the refused wing engages the enemy.

The 6 leading battalions of the left wing continued to advance, leaving a large interval, till, seeing the right wing engaging, they also formed and attacked. Thus the Prussian front was in three disconnected parts—the advanced-guard; the 6 battalions, supported by some from the second line; and the rest of the army; and, the whole being now committed, the execution of the original plan became impossible. The isolated central battalions were surrounded and compelled to surrender; the right wing, defeated, abandoned the field; the advanced-guard held its ground, and covered the retreat.

The Prussians are defeated.

Again, in 1814, Wellington's army was engaged in covering the sieges of St Sebastian on the left, Pampeluna on the right. Soult, advancing against Pampeluna, forced the British right to concentrate before it.



The position was this:—The English right, drawn up before Pampeluna, was assailed by the corps of Reille and Clausel down the valleys of Lanz and Zubiri. In rear, down the valley of Lanz, followed D'Erlon's corps. At Buenza was Hill's division.

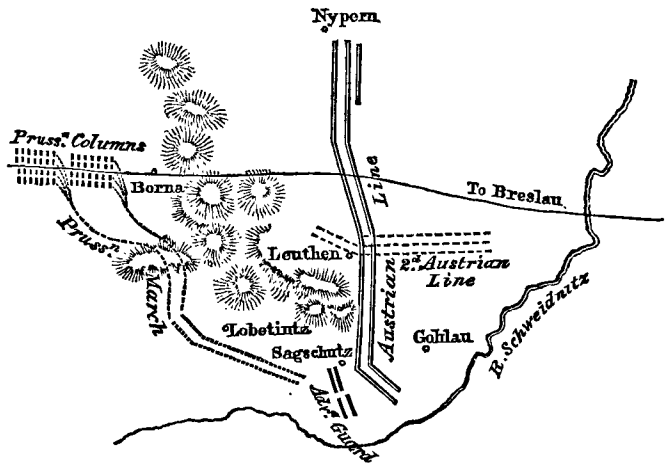
Foiled in his attack on the English right, Soult diverted D'Erlon's corps on the march from the Lanz valley by Ostiz upon Buenza, turned Hill's left, forced him back, and threatened to cut him from St Sebastian. Soult turns the British left,

At the same time Reille and Clausel were withdrawn from before Wellington to follow D'Erlon by Ostiz. A division under Foy was left to cover the movement. but leaves his own left exposed,

Wellington, with his whole right, fell on Foy, drove him apart, and, turning on Clausel and Reille, assailed their rear. Soult, weakened by the separation of Foy's division and losses in action, retired in disastrous confusion beyond the ridges of the Pyrenees. and is defeated.

Soult had neglected to refuse his weakened wing. Foy's division should have been withdrawn beyond reach of a counter-stroke, rear-guards only being left before Wellington, to conceal the movement and delay pursuit.

Therefore it may be assumed that *it is dangerous to turn an equal adversary with one wing, unless you refuse or protect the other.*



The most complete example of the successful application of the oblique order is to be found in the battle of Leuthen, in 1757, where 30,000 Prussians defeated 80,000 Austrians. Battle of Leuthen.

The Austrians extended from Nypern, through Leuthen, to Sagschutz, where their left, thrown back, rested on a marshy, impassable stream.

Taking advantage of some low intervening hills, the King commenced

his march from Borna against their left from Sagschutz to the stream, in two lines formed in columns or oblique echelons of companies—a strong advanced-guard marching between the heads of the columns and the enemy's line.

Prussians preserve the oblique order,

Clearing Sagschutz, the advanced-guard formed, attacked, and broke the Austrian left. The army followed in support, the cavalry, penetrating through the gap, constantly turned the left and rear of the broken line, which at length formed anew from Leuthen at right angles to the rest. The right wing sending off reinforcements to the left, the new line stood in very deep formation.

The Prussians, not ceasing to press on, formed on a parallel front to the Austrian left, with their hitherto refused left extending beyond Leuthen.

till the moment arrives for engaging the refused wing.

The Austrians now sought with part of their right wing to extend their line west of Leuthen. Thereupon the Prussian left wing fell upon the flank of this new portion of the enemy's line. The Prussian right continued to attack the Austrian left.

Throughout, the Prussian guns were directed on the angle made by the retired Austrian left, enfilading both its faces.

Austrians defeated.

The turning of their right forced the Austrians to abandon Leuthen; and after some attempts to stand, they retreated in great confusion to Breslau.

Refused wing must not remain altogether out of action.

Although the rearmost wing must be refused in making an oblique attack, it by no means follows that it should not take part in the engagement; on the contrary, every portion of the army unemployed, and which does not neutralise part of the enemy, is a chance lost. It will enter into the action either when the progressive advance of the line brings it into contact with the enemy, or by wheeling up and attacking the troops with which the enemy may seek to reinforce and extend his new line. The one thing essential is, that it should remain refused till the progress of the rest of the army secures it from the counter-attack of superior forces.

Frederick, whose system did not include large disposable reserves, used to reinforce the head of his attack with his advanced-guard and part of the cavalry of the refused wing. His advance in two lines renders these actions perfect examples, in form as well as in fact, of the oblique order.

But modern armies need by no means adhere to the oblique form, though adopting in spirit the oblique order. The head of the attack would be reinforced either from the reserve or the second line of the refused wing; the troops intended successively to support the attack would be formed in the manner most convenient for moving them to their destined places; the whole front would be masked with skirmishers and the fire of artillery; and a preponderating force of guns would be brought to bear on the assailed wing. Battalion columns in echelon—the head of the echelon reinforced and followed by strong reserves—the *outward* flank protected by powerful cavalry, with its accompanying horse-artillery, and the field-batteries assembled on the *inner* flank, so as to support the attack and to enfilade the probable new front of the enemy—would generally be a suitable formation for the part of the army beginning an attack upon the enemy's flank.

Spirit of the oblique order may exist without the form.

The error of the Allies at Austerlitz, and the Prussians at Kolin, sufficiently demonstrates the necessity for preserving the *continuity* of the line throughout the progress of an oblique attack. Not to preserve it, is to multiply the flanks (or weak points) of the line.

Continuity of the line essential.

OF THE COUNTER-ATTACK.

It has been shown that an army whose flank the enemy attempts to turn may, by operating on the chord, like Frederick's at Rossbach, anticipate the enemy moving on the arc, and secure all the advantages of the situation expected by its opponent, since it will be oblique to the opposing line, and will also outflank it.

Counter-stroke may be dealt at the attacking or refused wing.

But when the Allies at Austerlitz sought to turn Napoleon's right, far from moving across their path, he withdrew from it, and aimed his blow at the remainder of their line. And the results were more decisive than those either of Frederick's counter-stroke at Rossbach, or those of the manœuvre, so very similar in design, execution, and effect to the Prussian King's, executed by Wellington at Salamanca; for, after defeating the centre and right of the Allies, Napoleon enclosed and destroyed the wing with which they attempted the turning movement. Whereas, in intercepting the enemy's turning movement, though his defeat be imminent, yet, as he will be thrown back upon the line by which he advanced,

The latter more decisive.

scarcely any result is to be expected beyond that of cheaply gaining the battle—a result greatly to be desired, of course, but not necessarily decisive of a campaign. In fact, we find Marmont's army, beaten at Salamanca, presently reassembling and opposing Wellington anew; for, though driven in disorder from the field, its broken troops made good their retreat.

Reasons for choosing.

By investigating these different cases, we shall find grounds for determining the circumstances which render the one or the other mode of delivering a counter-stroke desirable and judicious.

As we have seen, Napoleon's real line of retreat at Austerlitz was not menaced by the turning movement. But Frederick's retreat to the Saale, and Wellington's to Ciudad Rodrigo, were both cut off, should the enemy's manœuvre prevail. In both these latter cases, then, we find the generals resorting to that counter-manœuvre which brought them on a front covering the line of retreat.

Again, in the cases of Rossbach and Salamanca, the parts of the assailants' line not primarily engaged in the turning movement were in great degree *secured*—at Rossbach by *distance*, for had Frederick descended on the left (or rear) wing of the French, they would have had time, before he reached them, to form front to their left, and bring their forces to bear on him; at Salamanca *by position*, for Marmont's centre and right were so strongly posted as to render their defeat, before the left should have completed its turning movement, very doubtful. Therefore in both cases the victors took the right course. But at Austerlitz the Allies laid bare their centre to the entrance of overwhelming forces, and the result was doubly decisive.

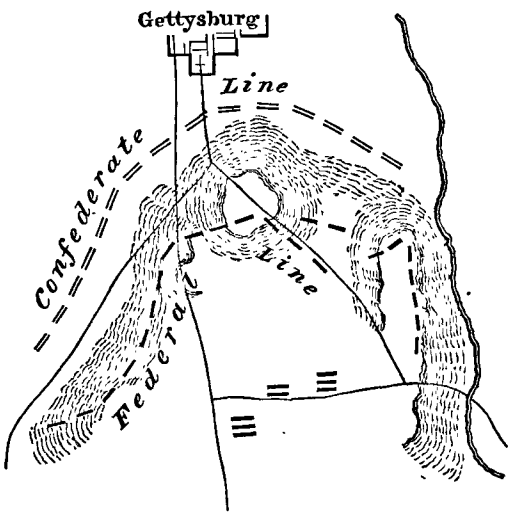
The attack of a wing, or of a centre and wing, is merely a variety of the oblique order, with the main attack made on a larger scale. Thus, for Napoleon's attack upon the British left at Waterloo, the right was reinforced with cavalry and guns, and the attacking connected with the refused wing by advancing the inner flank of the latter, and placing cavalry between them. The order echeloned on a wing is another variety.

ANGULAR ORDERS.

The salient order.

The disadvantages of forming the front of an army on a salient or outward angle have been already discussed at page 320.

Nevertheless there are cases where such an order may be resorted to without entailing the usual penalties. For instance, the wings may be strongly protected by obstacles, and the apex of the angle may be so placed as to deprive the cross-fire of the enemy's artillery of its full effect. The accompanying sketch of the Federal front at Gettysburg illustrates this. The left wing on the heights overlooks the plain along which the Confederates advanced; the right wing, also on high ground, is partly fortified, and covered by a stream. The apex of the line rests on the hill, which forms the highest and strongest part of the position, and which acted as a traverse or great mound protecting the wings from enfilade. If thus strengthened, this order of battle possesses the manifest advantage of enabling the reserve to reinforce any part of the line with the utmost facility—a circumstance which greatly aided the Federals at Gettysburg, where the corps of reserve was moved from wing to wing to meet the Confederate attacks.



Attacks of necessity assume the salient form,

In the cases supposed or adduced above, this order has been treated of *defensively*. But whenever an attack is made on a central part of a line, it is almost inevitable that the assailing force should assume the salient form: for it is no less necessary in this case than in the oblique attack to preserve the *continuity* of the line. The head of the attack must be con-

nected with the parts of the army kept for the moment out of action, and the flanks of the attacking troops must be protected; hence the assailant's line, or part of it, forms a salient angle. As the assailant cannot, like the defender, choose his position, it is very unlikely that there will be any exceptional circumstances of ground, like those of Gettysburg, to neutralise the disadvantages of this order of battle. The reader may ask, therefore, why attacks necessarily taking this form are ever successful?

but without entailing the same disadvantages.

The answer is, 1st, that these attacks, being unforeseen, *are not met by a corresponding enclosing angle on the part of the defender*, which is the only decisively effectual counter-order—they are generally directed against a straight front; 2d, this order is merely preliminary, for as soon as the head of the attack breaks the line, the faces form outwards against the broken extremities; 3d, the attack is disguised by feints elsewhere, designed to weaken the resistance; and, 4th, provision is made, by reinforcing the head of the attack, for insuring and following up its success; supporting troops pour in at the gap, and the effect may be doubly as decisive as the turning of a flank. The sudden assumption of this order, for immediate attack, is, therefore, a very different thing from adopting it to await the enemy.

Employment of cavalry in the salient order.

It may be noted here, that masses of cavalry may operate with great effect from the apex of a salient order, for the objections against making them the central portions of a straight line of battle do not apply here, as immediately on issuing from the opening of the faces they find a wide field free for their advance, and form, in reality, the flanks of those faces, while the rapidity of their movement peculiarly fits them for filling an interval of the kind. Thus at Austerlitz the two divisions of Lannes's corps, as they advanced, pivoted each on its outer flank, the left division moving against Bagration, the right against Lichtenstein; and through the widening interval between them (very dangerous if unprotected) advanced the numerous squadrons of Murat. Therefore cavalry (except on ground where it cannot act to advantage) should always support attacks on the enemy's front.

An attack of this kind is especially suitable when the enemy has weakened, by undue extension, part of his front.

Re-entering order.

The effect of an order of battle the reverse of the salient—namely, that which forms *a re-entering or enclosing angle*—is exemplified at Waterloo,

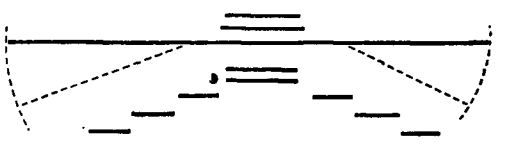
where the Prussians, by the direction of their advance, formed with the British line a front enclosing the front of the French. Not only do all the consequences already described ensue, but, while the guns from the enclosing line can scarcely take effect otherwise than transversely or in reverse—that is, with maximum effect—those of the salient front cannot attempt to fire otherwise than directly—that is, with minimum effect —except by immediately exposing themselves to enfilade. The troops forming the advanced face, or the angle of the salient, are shaken morally and physically by the attack which threatens their rear, and which in fact, if successful, cuts off their retreat. Nothing but darkness saved D'Erlon's wing from being enclosed between Blucher and Wellington.

Therefore, whenever it is possible to form front of battle which, while it encloses that of the enemy, preserves the continuity of the line, the chances are in favour not merely of a victory, but of a victory of the most decisive kind. At page 199 it is said that "if allied armies, operating from divergent bases, *can combine*, their operation will be more effective than if they had a common base." In such a case tactical advantages supplement those of the strategical situation. Hence, too, is seen another advantage of a wide base—enabling an army to throw forward a wing which will still command a line of retreat.

It is with reference to the advantages of this order of battle that Jomini blames Ney, when approaching the field of Bautzen in a direction which would have brought him on the Allied flank, for diverging in order to form in prolongation of the French line.

The ill effects of placing cavalry in the centre of a line are at their maximum in this order of battle, where it could not advance without masking part of one or both faces of the infantry. Its fittest field of action will be on the extremities of wings.

The attack in order of battle echeloned on the centre (sketch below)



—which is manifestly a variety of the salient order—will generally fail if deliberately attempted on a large scale, for, its object being obvious, it

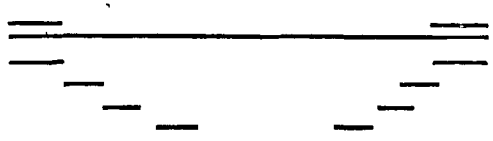
will be provided for by reinforcing the threatened centre, and throwing forward the wings.

Convex order.

The Convex Order is another variety of the salient; or rather it may be said that there is no such thing as the convex order, since an army would scarcely draw up on an arc, and that what is meant by the expression is, generally, an order echeloned on the centre, or some other angular form. And it may be asked why, being generally so disadvantageous, it is ever adopted? The answer is, that circumstances sometimes render it inevitable; after crossing a river, for instance, on an enemy's front, it is necessary to push a part of the army forward to cover the passage and other bodies up and down the stream to prevent the first from being cut from the bridges. Hence a convex or salient front—such as Napoleon, in fact, assumed when, after passing the Danube, he occupied Essling and Aspern on his flanks, and pushed forward his centre, and when, the Austrians having formed so as to enclose his front, he experienced all the disadvantages of the formation. Again, a rear-guard covering the retreat over a river or through a defile must often form in this way. The best remedy will be to post the angle of the salient strongly, or, if possible, fortify it with field-works; and in case of a river, the flanks may be protected by batteries on the further bank.

Concave order.

Similarly, *the Concave Order* is merely a variety of the enclosing angle, or rather it generally resolves itself into the order echeloned on both



wings. To await in such order an equal enemy formed on a straight front, would be to offer both flanks to his attacks. In assuming it, it would be indispensable, therefore, that the flanks were rendered perfectly secure by the nature of the ground. In such a case the position would be extremely difficult to assail, whether on the protected flanks or the retired centre. As an adversary would scarcely enter such a trap with his eyes open, the flanks might be connected directly by a thin line of troops forming an apparent or false front, and veiling the real centre while inviting the attack.

To attempt to *turn an enemy on both flanks*, refusing the centre, would

produce an order of this kind; if attempted *with equal numbers*, it must break the continuity of the line, and could only be justified if the intervals or weak portions were rendered, by obstacles or fortifications, strong against counter-attack.

When, according to the order of battle, certain parts of the line are to be refused, the design may be concealed by sending out skirmishers in front of those parts, who, without compromising themselves, induce the enemy to expect that the troops behind will advance rather than retire, especially if the ground conceals the movement.

Selection of points of attack.

In all cases, before deciding on the order of battle, it will be necessary to fix on the points of attack. On the selection of these will generally depend the degree of success in case of victory.

When the enemy is in a flank position.

If an army is connected with its base by one flank, the defeat of that wing may entail the dissolution of the whole force. At any rate, an attack on the other wing, however successful, would generally have the effect of forcing the enemy back on his proper line of retreat, and would be so far indecisive.

When important points lie on his flanks.

If an army were connected by its flank with another army, or a fortress, or other important point of the theatre, that flank would properly be the object of attack. Thus the Prussian right at Ligny, the English left at Waterloo, being the points by which the Allies were connected, were the objects of the first efforts of Napoleon.

When his line of retreat is oblique to his front.

If the line of retreat of an army obliquely traverses the rear of one wing, that wing will be the decisive point of attack; since to drive back the other would be to rectify the position of the army by rendering its front perpendicular to its line of retreat.

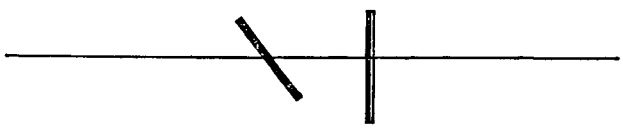
When the assailant is in a flank position.

On the other hand, if an army in a flank position designs to become the assailant, it should attack with the wing by which it is linked to its line of retreat. For as the attacking corps or wing should be reinforced, the reserves will naturally be already on that side which it is most important to secure; and it would be equally impolitic either to denude that part of the line to strengthen the other, or to reinforce both at the expense of the centre. This applies to all cases in which the army is linked to important communications by one of its flanks. Thus Blucher, taking the offensive

at Ligny, reinforced his right to favour the co-operation of his ally. Wellington, by placing his reserves behind his right wing at Waterloo, indicated that he considered his communications with Hal and Ostende especially menaced, and that he was especially desirous of preserving them.

Strong ground no justification for offering a flank.

When the lines of operation of hostile armies are identical in direction, it will be a grave error to take position on a front oblique to that line for the sake of advantageous ground, unless the advanced flank is so strongly posted as to defy attack. For every degree of deviation of the front from a direction perpendicular to the line of operation offers, proportionately, a flank to the approaching enemy, and withdraws the troops on the other flank from the points of collision. In fact, the relations of the lines would be those produced by the successful counter-stroke against a turning movement. It will be apparent, therefore, that the assumption of the oblique order is suitable only to the intention to become the assailant.



Indecisive victories.

It is possible to force an enemy from the field without either menacing his flank or breaking his front. This may be effected either by pressing back his line throughout its extent, or by seizing on commanding points of the battle-field, the loss of which renders his position untenable. In either case trained troops, properly commanded, will withdraw in good order; a rear-guard will be organised, defiles defended, pursuit checked, and the army, at the first secure pause, will be reorganised, and, except the loss of prestige and of ground, comparatively little the worse for the encounter. Where an army has been pushed back by a front attack, and there is no immediate pursuit, the victors often suffer nearly as heavily as the vanquished. At Solferino the losses of the French in killed and wounded exceeded those of the Austrians. "A routed enemy," says Marmont, "can always rally when not rapidly pressed at the moment of disorder."

Victories only decisive when the enemy is

In order to render a defeat *decisive*, the flank of the enemy must be turned, or his front broken. It is when troops are cut from their line of retreat, or thrust off it, that great captures are made; it is when, to

avoid such contingencies, they hurry in disorder from the field, as at Waterloo, that a swift organised pursuit forces the fugitive bands, seeking safety and sustenance, to wider dispersion, and converts defeat into ruin. turned or broken.

Flank operations, then, being, as we have seen, generally dangerous, unless with a sufficient superiority of force, and the breaking of the front producing every result that can be demanded from victory, *tactical* considerations—that is, the opportunities offered by the enemy's immediate position, and his manner of occupying it—become generally of paramount importance in choosing points of attack. Tactical reasons generally dictate points of attack.

The importance of advanced posts, like Hougomont, has been already discussed and illustrated. And they confer a further advantage on their possessor, exemplified at Waterloo, that of enabling him to throw forward a portion of the line till it rests on the post, and so to enclose the enemy's columns of attack. Unless, therefore, they stand so far asunder that the attack can be made between them, beyond the effective range of either, it will be usually imperative to master one or more of these as the preliminary to an attack upon the line of battle. Advanced posts must be captured.

If strongly-fortified posts exist *in* the line of battle, it will be well to direct the attack elsewhere, seeking rather to master some neighbouring commanding ground, or to reach the rear of the post, than to incur the certain losses of a front attack. The French left at Austerlitz, avoiding the fortified hamlets of Kruh and Holubitz, occupied by Russian battalions, easily captured them by mastering the surrounding heights; and Froschwiller, proof against front attack, fell when assailed in rear. Strong points in the line to be avoided,

When the most commanding ground occupied by the enemy's line secures his retreat, it will generally be the point of attack. For while he holds it, a success elsewhere cannot be decisive; and since the height must be carried, it is better to attack while the troops are fresh and vigorous than when wearied by the conflict. But if the enemy's line of retreat can be seized or menaced by an attack in another quarter, it will be manifestly well to avoid the costly effort. Had the Austrians possessed no other line of retreat to the Mincio than the Guidizzolo road, the struggle for the hill of Solferino would have been needless. except when decisive.

If a flank, say the left, of an enemy rest upon an impassable obstacle

Point to attack when the enemy's flank is supported.

—a river, lake, sea-cliff, or precipitous heights—by breaking the line at the other extremity of that wing, or in the centre of the army, all the troops between the point of attack and the obstacle may be thrown back upon it and destroyed, like the Russian left upon the lakes at Austerlitz. In such a case, as a most decisive victory may be gained in this way, the assailant's dispositions should be made with the design of only occupying and menacing the rest of the enemy's line, while the supports and reserves, and the combinations of the different arms, should be directed to the main purpose of pressing the broken wing back upon the obstacle.

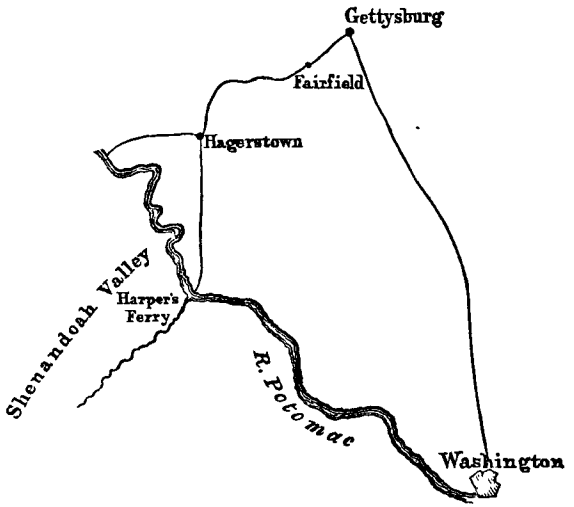
Occupation of ground when a flank is covered by an obstacle.

Conversely, when an army in position has an obstacle of the kind on its flank, it should by no means rest on it, but should rather leave an interval between the extremity of the line and the obstacle, to invite an attack there, which might be provided for by stationing troops in echelon behind the flank. When Napoleon advanced westward from Montmirail (Map 14) on the rear of Sacken and York, he formed across the angle of the La Ferté and Chateau-Thierry roads. In that angle, and on his right of it, the ground is level and open. But on the left of the La Ferté road it is difficult and broken, descending steeply to a marshy stream. Napoleon's left was retired along this part of the ground towards Montmirail. Sacken threw his right forward, seeking to penetrate to Montmirail through the valley; but the French counter-attack on the centre being successful, all the Russian wing—more than a third of the entire force—was thrown back on the stream and lost.

At the Alma, the sea-cliffs were on the Russian left and the Allied right. The Allies advanced in echelon from *the right*, close to the cliffs. The Russians, defeated, retired on Sebastopol with small loss, and hardly any captures were made. Had the Allies, leaving a wide interval between their right and the cliffs, advanced in echelon from *the left*, the victory might have been decisive of the campaign. And as to a counter-attack by the enemy between their right and the sea, it was evidently the step they should have most desired him to take. On the Russian right, the river, too, was narrower, the heights lower and more gradual; the roads to the interior lay on that side—everything indicated it as the point of attack.

When the lines on which hostile armies are operating meet at an acute

angle, that army which operates farthest from the angle obliges its enemy to take a flank position. Therefore such conditions offer a case eminently



suited to *manœuvring*, where the general and the army who can move with the greatest promptitude and precision force the enemy to receive battle at a disadvantage. To apply this, take the case of Gettysburg. Lee's line of operations lay through Harper's Ferry, Meade's through Washington, and at Gettysburg they met at an acute angle. Lee, being at the point of the angle, attacked, forming front oblique to his line of retreat (his left, indeed, was thrown forward considerably off that line). Whereas, by withdrawing a short distance towards Harper's Ferry by the Fairfield road, and manœuvring by his right, he could have forced his adversary either to retreat or to receive battle in a flank position.

Case of an army cut from its base.

When an army is absolutely cut from its base, it has at least this in its favour, that, having no communications, it can manœuvre freely to a flank. Yet the Austrians, issuing from Alessandria, continued to fritter away their strength in vain efforts against the French front in the village of Marengo and along the brook which flows by it, though their left wing had already succeeded in turning the French right in the plain. As any change in the direction of the fronts must, for them, have been for the better, they should have followed their left with their

whole army, covering the march by demonstrations only, on the centre and right.

Conduct of retreats.

When a retreat becomes inevitable, it is well to conceal the design by partial attacks. The second line relieves the first, which withdraws by alternate battalions or wings of battalions. The artillery should withdraw by parts not less than batteries, as alternate guns, or half batteries, would not command sufficient width of front to open fire after withdrawing, without risk to those that had remained to cover the movement. A rear-guard of the freshest troops available is organised as soon as possible; the victorious army, which cannot long move in order of battle, but must form columns to pursue, is checked till it can again deploy; the rear-guard performs the functions formerly described as proper to it; at the first defensible line the retreat is stopped, and the army restored to order, and as much as possible to confidence, and again confronts the enemy. Such is the history of a well-conducted retreat.

Military writers have disputed the point whether retreats should be concentrated or divergent. A beaten army should form numerous divisions and retreat on eccentric lines, according to Lloyd: "For," says he, "if the pursuing army forms an equal number of divisions, it cannot act vigorously on any one point; while, if it pursues in one mass, it can only operate against one division of the enemy, while the others retire without danger; and this division, being able to move with more rapidity than an entire army, may retire in its turn without experiencing great loss." "But," rejoins Jomini, "an army in retreat is already weak enough without dividing itself further; and though it is true all the divisions can scarcely be destroyed, yet one or two may, and the retreating army may thus sustain a greater loss than the most unfortunate concentrated retreat would entail."

Now, when the Prussians retired from Ligny, had they retreated in many divisions towards eccentric points they could never have united to fight at Waterloo. And had Napoleon possessed several lines by which to reach the French frontier from Waterloo, he need not have so completely lost his army, since much of its disaster was owing to the fact that it retreated by a single road. Neither Lloyd nor Jomini can, then, be wholly right, and yet both are partly right; for the truth seems to be, *that when an army quits a lost field with the intention of renewing the*

contest at the first opportunity, it should retreat in the most concentrated form possible; but *when a routed army seeks the shelter of its own frontier, the more roads it can move by the better.*

In pursuit, the great aim should be to strike, not the rear, but the flank of the retreating enemy. And as infantry that preserves its array can scarcely overtake troops flying in disorder, cavalry and horse-artillery are especially adapted for making circuits by which to cut in on the line of retreat. Cavalry pressing on the rear should not stop to attack firm infantry, but pass on, and increase the confusion of troops and abandonment of material. Conduct of pursuits.

To sum up the matter of this and the preceding chapters—the assailant's order of battle must depend on the points selected for attack, and the selection of those points must depend on circumstances already discussed.

A general, taking up a defensive line, or attacked while manœuvring, should seek to obtain, as far as possible, the following conditions :—

1*st, By the direction of his front, to cover his line of retreat as squarely as possible, without lending a flank to the enemy.*

2*d, To occupy ground which cannot be approached within range unawares.*

3*d, To insure free communication between the parts of his front.*

4*th, To conceal his movements and force as much as possible.*

5*th, To occupy or destroy such advanced posts as would be of advantage to the enemy.*

Lastly, he must take up his ground with a view to the action of that arm in which he may be proportionately strongest, or superior to the enemy.

Viewing the case from the other side, the assailant must first choose his point of attack. In order to do this confidently, he must fully understand his adversary's dispositions, by reconnoitring, if possible, the whole extent of his line. The case of all possible attacks—namely, on the centre, the wings, and the flanks—may be separately estimated. Probably all experienced generals execute, consciously or unconsciously, some such mental process in reconnoitring the enemy. This done, the assailant must make his dispositions—1*st, For disguising his attack;* 2*dly, For executing it;* 3*dly, For supporting it;* and 4*thly, For refusing the containing or defensive parts of his order of battle.*

CHAPTER V.

CHANGES IN CONTEMPORARY TACTICS.

Former object of tactics to bring columns to the attack.

FROM the time of the French Revolution to 1866, the great object of all offensive tactics of Continental armies was to bring a sufficiently imposing infantry column, or number of columns, in good order, up to the position of the defenders. It was to this end that the assailant's artillery concentrated its fire, that their skirmishers covered the advance, and that their cavalry prepared to follow the onset. Inkerman and Solferino showed the traditions of the wars of the First Empire to be still in force in this particular. And, except in the case of British troops, it would seem to have been adopted almost as a rule of the game, that when heavy columns did succeed in arriving in good order, and still advancing, within a short distance of the defensive line, the defenders should give way. Their main efforts had been directed to prevent the arrival of the columns; the columns arriving, resistance at that point collapsed.

Prussians, with modifications, adhered to columns.

When the need of providing against the fire of rifled arms grew pressing, the Prussians, going far beyond others in recognising the necessity of shelter, and of the consequent diminution in the size and depth of their columns, to meet the circumstances of average ground, were nevertheless distinct in their views that columns, and columns only, must be relied on for the capture of positions. Accordingly, company columns, supported by half-battalion columns and by denser formations, advanced against the Austrians at Sadowa, and against the French at Woerth.

Columns nevertheless must dissolve into skirmishers.

But under the pressure of facts, theory and tradition gave way: all reliable eyewitnesses of the war of 1870 testify that the advance against a position once begun, the columns, while under rifle-fire, dissolved into swarms of skirmishers; and consequently the first line of the attack con-

sisted of, instead of being covered by, skirmishers. This took place not in consequence of design or preparation to that end, but because it was felt by the attacking troops to be a necessary condition of any advance at all. While moving across the space swept by rifle-fire, the pace was of necessity rapid, in order to baffle the enemy's aim, and to shorten the time of exposure to it; frequent halts to recover breath and order were indispensable, and these were made lying down, either with or without shelter. These evolutions would have been impossible for a line, even could a line have existed under the enemy's fire. So it came to pass that whatever the original formation of the troops—Prussian company columns or French battalion columns—this was the order they were constrained to assume, under penalty of repulse or destruction. And the second line likewise, while moving under rifle-fire, found its dissolution into skirmishers, or small groups where there was partial cover, imperative, as did the reserves which followed. Obviously, this, while it increased the effect of the aggregate fire, because of each man's independence in taking aim, also left the fate of the attack more dependent on the impulses of individuals, and diminished the influence by which those impulses should be directed or restrained; and the maintenance of control over the troops, under these adverse circumstances, became a consideration of primary importance. The Prussians were, in this respect, far better prepared for the new conditions than the French. For their training in the formation of company columns had already thrown the leadership of the troops into the hands of the company officers, who alone, in loose and extended order, and in the stress of battle, could exercise effective influence. These officers, in the new circumstances of the advance, directed the assembly of their companies or parts of companies, on all practicable occasions, behind such shelter as the ground afforded, from whence, in loose order, again to advance to fresh cover. In this way coherence was maintained, the troops were, in the main, directed on the intended points, bodies were in hand for the charge at the right moment, and the ground won was held and secured by the assemblement thereon of solid portions of the second line and reserves. This circumstance, as well as the superior influence maintained by the officers over their men, made the Prussian attack far more effective than that of the French, which in appearance resembled it.

Necessity for maintaining control over troops in this order.

Prussians already prepared for the change.

Change also necessary in the formation for defence.

This change in the form of attack produced a corresponding effect on the dispositions for defence. The assailants, on approaching the position, brought to bear on it a fire so deadly that lines could not stand before it. Shelter and extended order became thus necessities of the defence; and that a due volume of fire might be maintained where trenches or similar cover did not exist, skirmishers were thickened by placing them at all available points of the fighting line. The aspect of the opposing fronts was therefore similar, the very important advantages enjoyed by the defenders being, that their cover was artificially improved or more deliberately chosen, that they were not constrained to advance from it, and that their supports and reserves were generally screened from rifle-fire behind the crest of the position.

Front attack in any form costly and doubtful.

In these circumstances it came to be admitted that in face of a fairly good defence a front attack was a desperate enterprise. Flank attacks were therefore almost invariably resorted to; and it was generally found that the sudden appearance of a comparatively small body of troops, who opened fire on the flank and rear of the line, was sufficient to produce dismay and rout. For fifty men armed with breech-loaders will produce a much more deadly effect in such a case than five times their number in the days of muzzle-loaders would have exercised; because of the far greater facility, speed, and concentration with which they will bring their fire to bear. But to insure their success it was considered necessary to engage also along the front, since the enemy would otherwise be free to meet and frustrate the flank movements. What the front attack effected was, to hold fast and occupy the enemy before it. This it did with the more certainty, as troops once engaged felt how hopeless was the attempt to retreat in the view of rifled guns and marksmen armed with breechloaders. The form assumed by the engagement was the collision of long loose lines, desultory and fluctuating because of the varied circumstances of ground and the independent enterprises of small bodies on either side, and protracted because of the difficulty of imparting simultaneous movement to a sufficient mass of troops. So the battle went on, at Wissemburg, Spicheren, Woerth, and Gravelotte, till it was decided by the turning of a flank. And in all cases where the defenders had not been in any considerable numbers forced back, the balance of loss was greatly against the assailants. Thus, at Gravelotte, the 2d

Flank attack therefore essential.

Form assumed by contemporary engagements.

Loss tells heavily against assailants.

French corps on the left of the position was attacked by two, afterwards three, German corps; and while these suffered enormously, its loss in killed was only 60 men. It is in retreating under the fire of the victors that the beaten troops pay the full penalty of defeat.

Frequent minor application of flank attacks.

When it is said that the Prussians are specially alive to the necessity of flank attacks, it is not to be supposed that the turning of the extremity of the enemy's line is alone meant; for that is a matter for the direction of the commanding general, and concerns only a fraction of the troops engaged. The common application lies in the attack of all occupied ground which is wholly or in part disconnected from the general line, such as advanced posts, hamlets, farm-buildings, woods, or parts of a position which project bastion-like, and are weakly defended in flank. There may be a score of such in a line of battle, and in each case the troops will combine the attacks in front with an extension round the flanks and a rush upon the weak point.

Of the modes of turning a flank, the Prussians seem to have used one.

The turning of the flank of a line of battle may be effected either by originally directing part of the army beyond that flank—as Bulow's corps was directed beyond the French right at Waterloo—or by reinforcing one wing of a direct attack, and deploying the added troops beyond the menaced flank during the engagement. The Prussians always seem to have operated in the latter way, engaging at the same time throughout the front. The history of the victories of the summer of 1870 is, that the German corps march straight for the enemy, that the leading troops at once attack, that the rest hurry up to their support, extending and deepening the skirmishing line, and that, after a severe engagement, an extension beyond a flank renders the position untenable. There is none of the higher manœuvring which aims at an advantage by deceiving and perplexing the enemy—no feint to retain him on one point while the decisive attack is prepared elsewhere. All is sheer straightforward fighting, successful because of the discipline and training and spirit of the units, and, in the end, because of the weight of numbers. Even where circumstances would already seem to indicate that the real effort must be made elsewhere, troops are nevertheless sent on in an indiscriminate assault. Thus, the German right at Gravelotte was separated by a ravine from the French left; it rested on the Moselle, and the French could only advance on that bank by forcing the Germans back; the decisive

Skill in attack of the units trusted to rather than higher manœuvres.

attack was to be made by the German left; the ground was excellent for defence, bad for offence;—all good reasons for the avoidance of unnecessary slaughter and risk of defeat, by slightly engaging, or even by refusing, that wing of the German army. Yet the corps there were hurried to the attack no less earnestly than at other parts of the position, suffering enormous losses—in peril, indeed, of defeat till supported by the II. corps, from Pont-à-Mousson,—and inflicting only the most trifling damage on the opposing corps, which did not withdraw till next day.

French defence unskilful.

On the other hand, the French, having taken up a position, restricted themselves, especially when the enemy's superior numbers were brought into action, almost entirely to the defence of it, their offensive efforts being desultory and devoid of an important general purpose. Nevertheless, in a combat between equal forces, it is demonstrable that the defensive line will bear stretching better than that of the assailants, and that an effective defence will provide, by the slight occupation of naturally strong or indecisive parts of the line, for an accumulation of forces with which to foil the enemy's flank attacks, or to break his front, and assume a strong initiative at the right time. The French, however, attempted nothing of the sort; and they were beaten, battalion for battalion, not because the German system was perfect, but because it was much better than theirs.

Higher tactics still applicable.

The student, therefore, will learn from these battles nothing of the higher tactics which, originating in the forethought and inventive faculty of the commander, effect great results with small loss, or make skill compensate for inferiority of force. Nevertheless, such tactics must be desirable no less under present than under former conditions. Indeed, the increased advantages to troops on the defensive render the weakening of a wing or other refused (and therefore defensive) part of the assailant's line, for the purpose of bringing an augmented force to bear on a decisive point, more secure and practicable than before; while similar manœuvres are even still more feasible on the part of the defender.

Independence of companies may render higher manœuvring difficult.

It is probable that the independence of companies may be found to interfere with the execution of an ingenious general plan requiring delicate handling. An officer in command of an important mixed force—a division or brigade—is anxious to maintain a reputation for skill no less than valour. But a captain has little chance in a general action of dis-

playing any quality except that of boldly and dexterously bringing his men into conflict. The rivalry which springs up—and which it would be impolitic to discourage—naturally leads every one to use to the utmost his opportunities of engaging. This spirit, excellent for fighting purposes, may well render manœuvres difficult which are founded on false attacks, withdrawals from fire, refusals to engage at particular points, and indirect movements; indeed, on more than one occasion, general engagements were precipitated, contrary to the intention of the commander, by the ardour of company leaders. To control, without repressing, that ardour, seems to be an important step yet to be accomplished, and one which military history shows to be perfectly feasible. The army which takes it, and is led by great tacticians, will carry the science of combat far beyond the point of 1870.

It is essential to the due execution of this new method of attack that the fighting unit of infantry shall be formed, not on administrative nor traditional, but on purely combative considerations, its strength being limited to the number which a single leader can easily command in the stress of a modern engagement, and which can obtain shelter in average ground during an advance under fire. The unit thus determined, it is not less essential that men and officers shall practise the adaptation of troops to ground while executing the attack, in order to combine ready and intelligent action and prompt movement with the maintenance of direction and control.

In determining how each unit shall operate, the Prussians have adopted the plan of forming parts of each company into skirmishers, supports, and reserves. Notwithstanding the authority of their example, it may be matter of inquiry whether it would not be better that each unit shall act entirely in one way, altogether extended or altogether in support. For, owing to the difficulty of keeping a right direction in such a mode of advance, supports are apt to find themselves arriving in rear of skirmishers of companies other than their own; and the disadvantage of separating captains from their command, and parts of companies from each other, is probably greater than that which any other kind of dislocation entails. Should it be found, however, that this objection does not apply, the advantage of the Prussian method will be incontestable.

The mode of attack on which the foregoing considerations are based is,

in the main, that which, having been found successful by highly-trained troops in many great battles, and having commended itself to the minds of their most thoughtful and experienced leaders, is now adopted as a system. No theory, however plausible, no tradition, however venerable, can maintain itself against practice, confirmed by success and persisted in from conviction. It is not merely because of its results that the German military system may claim to be the model of Europe. The world has seen before warlike peoples and victorious armies, but never a people and an army who have sought the secrets of success with study so thorough, zeal so untiring, and self-denial so stern, as those which obey the German Emperor.

Modifications in defensive dispositions.

Investigating the changes which may be expedient on the side of the defensive, reasoning, not precedent, must show the way. For in the actions of the late war, the French occupied the ground so differently in different actions—in extended order at Woerth, in deep formation at Vionville and Gravelotte—that no rule is deducible from their practice, while the defensive actions of the Germans were fought against troops so undisciplined, that it must still be doubtful what order they would adopt against an assailant whom they had reason to respect.

Skirmishing line inexpedient.

The first question is, whether the line of skirmishers, which has hitherto generally opposed the assailant's skirmishers in front of the position, is still appropriate. Before a sustained attack in force these skirmishers must, as a matter of course, be withdrawn. But to retire in face of breechloading arms, and in presence of such a force as the skirmishing line of the assailant now comprises, would be a costly process; and the defender's skirmishers would certainly suffer far more loss than they would inflict, while a brisk advance might bring the enemy almost to the position at their heels; when the fire of the main defensive line must, in some considerable degree, be masked by its own skirmishers.

First line.

The first line must then be that which first opposes the enemy, and it must be carefully sheltered in order to derive due advantage from the defensive. In defence of hilly ground a shelter-trench* should be formed not on, but just below, the actual crest, in order that, if lost, it may be of the less advantage to the enemy, and that guns in the rear may fire

* See "Hasty Field-Works" in the final chapter.

freely over it. Often the infantry will be better placed lower down the hill if a glacis-like slope exists at its foot. It may be doubted whether the line should be of two ranks. To aim at ease and undisturbed, will contribute more to the general effect than to increase the volume of fire at the expense of steadiness. It is probable, therefore, that a single man to a pace of 30 inches of lateral space will afford the maximum of effective fire of which a line is capable. To repair casualties and afford support, a second line should be sheltered as close as possible to the first, for the space to be passed over under a hot fire should be short, and support cannot be too prompt when it is so difficult to read the movements of the enemy, as in the present form of attack.

Second line.

A man to a pace is 2000 men to a mile; two single lines 4000 men; which will probably be sufficient in average ground. But in good positions there are parts which it would be superfluous thus to guard—ground in itself impassable—or broad smooth slopes swept by the fire of artillery, and where the assailants are seen at every step; a few men behind a strip of trench, or on the flank of a neighbouring hill, will suffice here; while, on the other hand, there will be weak points where ravines run up, where rivulets make their way through bushes, where close ground comes up to the position, or where woods reach down from it to give a hand to the assailant; and there in third line will be stationed small reserves. Thus the front line of battle will be an interrupted line; the second line will be posted partly to fire across the flanks of the portions of the first line (where the rush will certainly be made), and partly in compact bodies covered and at hand; while across the heads of ravines, in rear of woods, in low close places where the view to the front is obstructed (and behind parts of the line where the enemy's artillery strikes hardest), will be found the troops which form the third line, and whose task will be to prevent small bodies of partially successful assailants from making good their footing in gaps that they may have broken in the front. Thus 5000 men per mile, or 5 men to 2 paces, may hold throughout a fairly good position. But besides these there must be the general reserves, whose place will be indicated first by calculating at what part the enemy's most strenuous effort to penetrate will be made; and secondly, the place whence to issue for the effective counter-attack which should form the final element in all defensive battles.

Proportion of men to space.

Place of the third line.

Posting of general reserves.

Effect of artillery comparatively diminished.

The artillery of the last generation was greatly inferior to ours in range, precision, and the power of its projectiles, and yet the *comparative* effect of the smooth bore, on the field of battle, was greater than that of the rifled gun, for two reasons; first, because infantry-fire has surpassed that of artillery in the degree to which its power has been augmented, and has become formidable even at the former limit of the effective range of guns; secondly, because the opportunities of effective artillery-fire have diminished as range and accuracy have increased. In earlier wars the artillery of the defenders saw before it a line of ponderous columns, each a battalion, a regiment, often a brigade; that of the assailants beheld lines more or less sheltered, but which often lent a flank to enfilade, and behind these lines were columns. On the one side squares, menaced by cavalry, stood motionless and uncovered; on the other the deep array of squadrons offered itself to the projectiles. On causeways, bridges, and defiles, troops in processional order were exposed to cannon. And all this while, the occasions when infantry could inflict damage on guns in action were few and brief.

Now, the batteries of the defence look on the quick irregular advance of a multitude of columns so small as to find frequent shelter in average ground, which are scarcely aimed at before they vanish, and which, on arriving within the outer circle of rifle-fire, dissolve into a spray of skirmishers. The Prussians assert that their company columns were never kept from advancing by artillery-fire. The guns of the assailants are directed not so much on troops, as on the smoke which indicates the shelter-trench, or the brow of the position. On both sides skirmishers who are scarcely discerned will creep up till they reach with their bullets the men and horses of the batteries. It is precisely within the ranges at which the old guns were most effective—from 800 to 300 yards—that artillery is now itself liable to be disabled by the superior fire of infantry. The effect, therefore, of artillery on infantry—its only decisive effect, and the very reason of its existence—is less than it used to be. At St Privat nearly 300 guns were concentrated on the defenders of the post, who nevertheless drove back the Prussian Guard with dreadful slaughter, and held their ground till their flank was turned.

Its destructive power

Nevertheless, though the comparative effect of artillery has diminished, its destructive power has greatly increased. The dread of it forces infantry

to adopt new formations and modes of action, and neither the attack nor the defence can afford to neglect the full development of so potent a weapon. On the side of the defence the new features of its employment are, artificial cover, such as gun-pits; the direction of its fire on skirmishers, the depth and thickness of whose lines render them a sufficient object for shells, while their own formidable fire calls for every kind of opposition; and the concentration of fire on the enemy's guns as they come into action, the probable position of the hostile artillery being well considered beforehand.

has driven infantry to new formations.

New features of its employment in defence,

On the side of the attack the following modifications in artillery tactics are specially notable:—

in attack.

1st, The immense increase in the force of artillery brought on the field from the very commencement of the engagement. The object of this is to overwhelm the enemy's artillery, and to pour such a fire upon his infantry as shall aid materially in neutralising the disadvantages under which the attacking infantry advance. This is effected by attaching more artillery to the advanced guard, by placing the corps artillery on the march at the head of the main body, and by forming the immediately combatant part of the artillery column of guns, accompanied only by the wagons needful for immediate supply of ammunition, the others marching farther in rear. Thus a corps can bring 50 guns into action almost simultaneously with its advanced guard. That the artillery can venture to assume so forward a place is due to confidence in the defensive power of even so comparatively small a body of infantry as the advanced guard generally comprises. But there are topographical circumstances in which this would be dangerous. In North Italy, with its numerous canals and vineyards limiting the front of the advance, in the woods of America or Eastern Europe, and in very broken or hilly ground, to push it forward on the march would be to expose it to destruction.

2d, The endeavour at once to engage the enemy's guns at a comparatively short range.

In the case of an artillery superior in range to its adversary, it would seem an obvious measure to bring it at first into action just beyond the effective range of the hostile fire, thus securing for itself comparative immunity. And to engage at shorter range is undoubtedly so far to give the enemy points in his favour. But the Prussian artillery, which claimed a great

superiority in range over the French, nevertheless sought to open fire within a mile of the enemy. This, no doubt, they would justify by the necessity of affording to their infantry, at whatever cost to themselves, the most prompt and decisive support. Relying on other elements of superiority—accuracy, power of projectile, and endurance of fire—they were anxious to bring these to bear in the most effectual manner, and their practice was generally justified by the result.

3d, Timely support of the infantry as it advanced, by closing up to shorter ranges. But as changes of a few hundred yards would both be ineffective as to increase of power, and would cause the loss of fire during the advance, these forward movements should not be less than 800 yards in extent. It was also considered of immense importance that the artillery should immediately occupy a position carried by the infantry, producing its maximum effect on the enemy by firing into his retreating masses, and aiding to secure the ground already won. This was an additional reason for engaging from the first at comparatively close quarters.

Batteries should be massed for concentrated fire.

Although it is true that batteries posted widely apart can concentrate their fire, yet the importance of the point to be aimed at is not always apparent from every part where separate batteries may be posted, and separation is in itself a great hindrance to singleness of purpose and promptitude of action. It is found best, therefore, to concentrate the batteries in masses—not necessarily in lines, but near enough to each other to be subject to single direct control, and to give each other the benefit of any experience gained, as to range or effect, in the course of the practice. The choice of ground where they may best aid the advance of the infantry without being masked by it, where some degree of cover will be obtained, and from whence it will be easy to advance at the right moment, forms a very important part of the instruction and practice of artillery officers in manœuvring for exercise with other troops.

While the theories formed respecting the action, under present conditions, of infantry and artillery, are sufficiently definite and decided, those promulgated by students of, or actors in, the events of the late war, respecting the action of cavalry are by no means so clear.

Probable employment of cavalry.

It is on all sides admitted that cavalry cannot with hope of success attack the front of prepared infantry in any formation. It can only act

efficiently against unshaken infantry when its attack is unexpected; and to fulfil that condition it must be concealed within such distance of the flank of the infantry as it can pass over in career before the infantry can change front to meet it in adequate force, or within a still shorter distance of their front. Even then, in attacking, in flank, a front line of skirmishers, it will probably be exposed throughout to the fire of the supports, unless these too are included in the front of the attack; which would imply the presence of such a force of cavalry as would not easily be concealed in ordinary ground.

These conditions are not new; what *is* new is the exterminating nature of the fire from which, if the attack fails, the cavalry will suffer.

Opportunities for attacking prepared infantry rare.

It is evident that opportunities for such attacks can only exist on broken ground, and rarely elsewhere than on the flanks of the line of battle; the exceptions being where infantry, attacking isolated parts of a position, offer, in the attempts to turn its flank, their own flank to counter-attack, in which cases the action of the cavalry will generally be on a small scale. As the flank of a line of battle will usually be protected by its own cavalry, the opportunities of an advantageous charge on unprepared or unshaken infantry must be few. Probably the best opportunity for a decisive attack would be in the case when the crest of an enemy's position has been partially carried by infantry, and cavalry, following in support of the attack, and forming on its own side of the slope, passes over it to charge the retiring troops and their supports. There are, however, no examples of such attacks in the campaign of 1870.

Attack on shaken troops.

In most hard-fought battles there comes a time when infantry grows dispirited and despairing beneath the stress of combat. Only its braver spirits possess the energy to use their arms; the rest await but an impulse to quit the field, or are already quitting it. At such times a great attack of cavalry will succeed, and decide the battle. Neither of such, however, does the campaign in France afford examples.

Pursuit.

When an army has been so heavily defeated as to be disorganised, and to think no longer of defence, nor of anything but escape, the pressure of cavalry on the rear will prevent the formation of a rear-guard, augment the disorder, and render a speedy resumption of resistance impossible.

Action against retiring infantry.

If infantry alone were retiring before infantry accompanied with cavalry, and in ground affording occasional shelter to the squadrons which

hovered near threatening a charge, either the retiring infantry must, by continuing to retreat, afford opportunities to the cavalry, or must halt to oppose it, and expose itself to the fire of the pursuing infantry. In such a case the effect of cavalry may be greater than formerly, in proportion to the severity of the fire to which the retiring troops will be exposed during the time they remain stationary. Supposing a turning operation to be so far successful as to oblige the enemy on that side to retire to new ground under penalty of being attacked in flank, the cavalry that accompanies the turning force may have the opportunity of charging during the movement, or of forcing a halt, achieving in either case decisive results.

or, in supporting a turning movement.

Action against artillery.

The practice of bringing great masses of artillery into position at an early stage of the attack must, apparently, cause large proportions of the line of battle to be defended only, or chiefly, by artillery fire during at least a part of the action, because the guns will arrive before the main body of the infantry. The artillery of a corps, if formed into one great battery, would occupy nearly a mile of front. There would consequently be a considerable part of this front inadequately, if not entirely, undefended by infantry fire; and in a great battle there would be many such spaces. On the opposite side the position, more deliberately occupied, would offer no such weak points; and if, as in many battle-fields, the ground between the hostile fronts is undulating without being intersected, or is marked by farms, groves, or hollow ways, there would seem to be no reason why masses of cavalry should not be assembled, in anticipation, opposite the probable posts of the enemy's great batteries, and sufficiently near for a rapid attack upon them. Supposing these batteries to be directed on the opposing line, 1500 yards distant, the cavalry, already posted considerably in advance of their main line, might, in the heat and smoke and absorption of the engagement, pass over the intervening space almost unperceived; in any case, to lay the guns accurately on the advancing horse at successive points of their final career would seem impossible, and even the time for many discharges would be wanting. Important opportunities, then, which recent tactics will afford to cavalry, will be *the attack upon masses of artillery.* Especially will this be practicable when the corps artillery pushes into action on the flank of the advanced guard pending the arrival of the main body, or when infantry are defeated and retiring covered by artillery fire. On the other

hand, to protect the guns from such attempts it will be necessary to assign bodies of cavalry to remain near them: and great conflicts of cavalry will ensue when, if the squadrons attached to the guns are worsted, the artillery will experience the fate of the French batteries attacked by the victorious Scots Greys at Waterloo. In such cases it is evident that the security of the artillery must depend in great degree on the efficacy of the cavalry.

Extended order of attack probable.

It is probable that in many cases cavalry will find it expedient to follow the general tendency towards more extended formations, and to adopt against infantry or artillery an order for its front line resembling the advance of infantry skirmishers.

Should cavalry cover the advance of the army?

If these opportunities of action are not overstated, the importance of cavalry is still such as to render it expedient to maintain a formidable force of that arm. But the function which in the late war in France it discharged with most evident advantage, and which earned for it the most general repute, was the duty of covering the army. Preceding, by from 20 to 40 miles, the main columns, the cavalry spread a veil over their movements, gained on all sides important intelligence, levied requisitions, and took possession of towns. Duties so arduous demanded that the force performing them should be independent of the force required for the field of battle; and the cavalry of an army thus protected must be greatly in excess of the amount of force of that arm which would be in due proportion, for fighting purposes, to the infantry and artillery. It is important, therefore, to inquire whether cavalry is the species of troops which may be employed for this purpose to most advantage. If, on the one hand, the immense success that attended its operations is urged in favour of the measure, on the other it must be remembered that the abdication of its functions by the French cavalry left the enemy's reconnoitring horse absolutely unopposed. The inability of cavalry to engage with infantry applies quite as forcibly to small as to large bodies; and a single infantry division spread before the French army in the form of outposts and patrols would have speedily put a limit to the enterprises of the Prussian horsemen. But the slowness of movement of infantry renders the arm inapplicable to the prolonged maintenance of so extended a chain at such a distance from the army. Some force which should combine the celerity of cavalry with the formidable fire of infantry would exactly suit the case; and such is to be found in a corps of *mounted riflemen*. Nor

Mounted riflemen advocated.

would the performance of advanced-post duty by any means exhaust their functions. For seizing a post or a defile before infantry could arrive there, and which cavalry would be incompetent to hold—for rapidly turning a flank—for executing distant enterprises against communications —mounted riflemen seem the inevitable solution of a problem, the conditions of which are, speed of movement, with ability to contend with any kind of force. The Prussians propose to meet the case by arming their light cavalry with a better weapon. But this is only to create a more expensive and less efficient kind of mounted riflemen. Size and weight of man and horse are worse than superfluous where celerity, accuracy of aim, and readiness in obtaining cover, are the requisites. Light men on small horses, steed and rider active and enduring, with excellent weapons and careful training, will compose a description of force such as has not been seen on any modern European battle-field, but which will, at small cost, produce great results. The nature of the service would render it especially popular with the active, the enterprising, and the ambitious; and (supposing we were desirous for once of devising something in war, instead of copying foreign examples in the way that Chinese artists copy Italian pictures) it would not be easy to lead the way more effectively than by organising a force of mounted riflemen. Its strength should be such as, after providing for the covering of the army on the march in its most extended order, should keep in hand for the day of battle a force which, joined to an equal force of cavalry, should raise the total of those two to the proportion hitherto considered necessary for the cavalry alone. But, indeed, mounted riflemen would be so generally effective, that the only limit to their numbers need be the means of maintaining them.

Strength of such a force.

Probable modifications in tactics on the defensive,

The fact that any good position, adequately occupied, may now be considered certainly tenable against all front attack until the strength of the defenders is exhausted and gives way before the assaults of fresh troops, renders certain modifications in tactics probable. Thus, on the defensive: a position good in itself, and resting each flank on an impassable obstacle, may be considered practically impregnable, and suitable, therefore, in an increased degree, for a purpose purely defensive; the frequency of flank attacks points to the fortifying by works of an exposed flank, and the posting of great part of the reserve there; a flank liable to be turned should,

when the ground permits, be retired in echelon, which will facilitate the assumption of the offensive against a foiled turning movement; the enemy may, with increased confidence, be permitted to penetrate between a flank and an impassable or difficult obstacle; well-posted parts of the line may be greatly extended and thinned, for the purpose of accumulating forces for an effort elsewhere. On the offensive: points may be seized and held in an intended position, or line of battle, by advanced troops, if sure of support, in presence of very superior forces; part of a force may, with increased security, be left in front of a strongly-occupied position while a turning movement is made by the rest of the army. And, both on the offensive and defensive, it will generally be more expedient, or at least more justifiable, than before, to run strategical risks for the sake of tactical advantages, because those advantages will be much more essential than formerly to success. It has already been pointed out (p. 214) that the disadvantage under which a divided force operates against a concentrated force is diminished by the electric telegraph. Possibly a bold tactician, acting on the defensive, may see in this fact the true way not only to the defence of a flank, but to the delivery of a counter-stroke as effective in its direction as the attack of the Crown Prince at Koniggratz. Extending his line till it is commensurate with the space which the assailant may be expected to occupy, and providing for the immediate defence of an exposed flank by works, reserves, and echelons, he may detach a force to attack the flank of the enemy on that side when seriously engaged. For instance, if Bazaine, on the 18th August, had posted a division of the Guard (idle in the battle), with artillery and most of his cavalry, in the valley of the Orne, with instructions to await the telegraphic signal for an attack at right angles to his own front against the enemy's left flank and rear, it might have taken place on the repulse of the Prussian Guard, and defeated the final turning movement of the Saxons; while the troops thus employed, if worsted, would have retired on Thionville. There have been as yet few or no examples of the facilities for new combinations which science has conferred on war.

on the offensive.

The fact that troops suffer more heavily than before when retreating under fire, must also have its effects. Detachments, such as rear-guards or advanced-guards, whose object is to retard the enemy, must be more than ever careful to withdraw before committing any con-

Effect of difficulty of retreating under fire.

siderable portion of their force to an engagement, or so to time their resistance that they may withdraw under cover of night. Advanced posts, however seemingly advantageous, should not be occupied with the intention of finally withdrawing from them. And no manœuvre should be based on a gradual withdrawal of part of the line under pressure of the enemy.

Mode of opposing Prussian tactics suggested.

It is very evident that the present training of the Prussians is, and their future tactics probably will be, largely influenced by their great and unbroken successes. They confide in cavalry, because cavalry did so much for them in France; their belief in the virtue of offensive tactics is confirmed, since their onsets on the French always ended in victory. This is a point for serious consideration by a commander who may oppose them in the next war. It is not to be expected that any army will be better fitted for fighting, by organisation, discipline, training, or spirit, than the armies of Germany. Success must be sought elsewhere than in a manifest superiority of this kind; and will be found mainly in anticipating and preparing to meet the peculiarities of Prussian warfare in its latest developments. An antagonist defending his own territory against them may calculate on finding all their movements at first characterised by audacity, and should seek therein his advantage. He should meet their reconnoitring cavalry with a well-maintained cordon of mounted riflemen. Knowing that their advanced guards will be eager to engage, he should draw them into attacks on his own, bringing up a force of mounted riflemen to turn the scale against the infantry, and of cavalry to attack the great battery which will presently be seeking to overwhelm him. Except with manifest advantages on his side, he should not at first imitate their tactics by seeking to engage, but await them in position, combining his defence with the offensive action of a detached force, which would manœuvre for the occasion on a pivot of its own, but which would receive its impulses from the general-in-chief by means of the telegraph. Should the enemy seek to turn his position by a circuit, he may throw himself across the heads of their columns, confident of finding that their eagerness to engage will have caused them to extend unduly, and that he will be met, in the successive stages of his attack, by numbers constantly inferior to his own. If the intercepting movement be already completed before he can meet it, he may strike boldly at their rear with the certainty of finding there a vulnerable point. When about

to become the assailant, he should manœuvre to base himself anew, and threaten their communications; for though this may have been foreseen by the enemy, yet the sudden change must derange their plans, complicate their movements, and deprive them, for the time, of the initiative. Other operations, in a similar spirit, will suggest themselves to the reader; and, throughout the campaign, advantage should be taken of the railways, telegraphs, and temporary bases available for an army in its own country, to combine simultaneous operations, on varying fronts, for a common purpose of defence or attack. And though it is not to be doubted that tacticians so sagacious as those of Prussia must have foreseen how their own tactics may be met, yet it is by no means so certain that the alternative system which they may devise will be so successful as that which destroyed the armies of France.

Proper use of camps of instruction.

The reader will have noted that all important changes of tactics and of organisation have been made in intervals of peace, and that the place has been a camp of instruction. It was in his Silesian camps that Frederick worked out his system, taught it to his generals, and brought it to perfection. It was in the camp of Vaissieux that two marshals of the old *régime* devised and taught the new methods which the French Republican armies so successfully put in practice against the inheritors of Frederick's tactics. It was in the camp of Boulogne that Napoleon modified the new system, and prepared the French army for the triumphs of Ulm, Austerlitz, and Jena. It was in the mimic warfare of their summer exercises that the Prussians were prepared for the triumphs of Bohemia and of France. What they are now specially solicitous to attain is completeness in the necessary details of that system of attack and defence by all arms, which their experience of the late war has shown to be applicable to modern battles. To this end their practice in these multitudinous details is incessant, and the main business of regimental officers is to learn the capabilities of ground, of all kinds, and in all circumstances, and to dispose their men carefully upon it. The word system is applicable to their training not as representing fixed methods, but as expressing cultivation of intelligence, and preparation by practice for the innumerable contingencies of war. Not less important than the right instruction of troops is it that as many officers as possible of superior grade should, while yet comparatively young, be practised in general commands, so that their

first lessons may not be the costly ones learnt in face of the enemy, that their qualities may be tested, and that those commanders may be known who are to be relied on in future wars. As in the past, so in the future, it must be for armies, before new wars shall find them still fettered by obsolete customs and traditions, to adapt themselves, as the weapons with which States guard their honour, independence, and prosperity, to the altered circumstances in which they must operate.

CHAPTER VI.

DISPOSITIONS FOR THE MARCH THAT PRECEDES A BATTLE.

WHILE an army is at a great distance from the enemy, the chief care of the leaders of columns will be to place their troops in such order as will best insure celerity of movement and convenience of supply. But when an army is moving to an immediate engagement, all its columns must be ready to form line of battle on the shortest notice.

The first great distinction between a march of this kind and an ordinary march is, that whereas, in general, a long train of supplies and baggage must follow the columns, an army moving to battle disencumbers itself of all that is not essential for feeding and fighting during the day or days of conflict. Men and horses carry with them one or two days' food; spare ammunition must be at hand; all else may be for the moment stored in the rear.

Selection of routes for columns.

Thus stripped for the struggle, columns, each of a corps or division,* advance upon such roads as will at once lead them on the enemy, and keep them within deploying distance of each other. If the commander has been enabled, by reconnaissances and intelligence of the enemy's dispositions, to determine his order of battle, it will be a great advantage; for, according as a wing or centre is to be reinforced, the troops can, at the outset of the march, be directed on the roads which will bring them to their destined positions in the line. The divisions and the cavalry

* The Germans, in the war of 1870, always, when the number and proximity of roads permitted, moved a division on each road. This, however, was not always possible; in the advance from the Moselle, 16th and 17th August, roads were few in proportion to the forces using them, and the columns were very long.

will be accompanied by their own batteries; the reserve artillery will generally accompany a central column, if the road be good.

The army will be preceded by an advanced-guard.

Compactness being now of the highest importance, all the arms of a column will move in close order, and on as large a front as is consistent with leaving part of the road free for the transmission of orders and the going-about of cavalry or guns. Until newer ideas prevailed the column would have been formed thus in an average country:—

Order of march to the front.

1st, A battery, because its fire will be required to keep the enemy at a distance during the first deployments—preceded, however, by a few horse.

2d, A brigade or division of infantry.

3d, A battery, preceding another brigade or division of infantry.

4th, The cavalry of the column. This is not placed more forward, first, because cavalry of itself cannot defend itself, as infantry can, under all circumstances; and, secondly, because its speed will always enable it to reach the line of deployment, or point where it is to act, as soon as the majority of the infantry.

5th, The remaining batteries of the column.

6th, The rear-guard.

According to the practice of the Germans in 1870-71, the artillery would now be much nearer the head of the column; the increased capacity for defence being relied on to insure its due protection by the advanced-guard.

Position of the cavalry.

When the nature of the country dictates that masses of cavalry should be on one wing, or on both wings, they will march, accordingly, on one or both flanks, in adjoining columns, not intermixed, either laterally or longitudinally, with infantry. Such was the order in Davout's march to Eckmuhl, when his cavalry covered his left flank, his right being protected by the Danube (p. 148). Such was *not* the order in M'Mahon's march to the aid of Bazaine; the flank next the enemy being left uncovered, while the cavalry were assembled on the other; surprise, disorder, and rout being the result.

Connection of the general front.

In all cases the columns will be incessantly connected by light troops extended throughout their front; and advantage must be taken of all cross-roads to maintain concert and exchange intelligence during the movement.

Meanwhile the advanced-guard (to be treated of separately), marching

at a certain distance ahead, will, presumably, prevent the heads of columns from being suddenly attacked, or from being separated by an advance of the enemy.

Subdivision of the columns.

On approaching a position which the enemy may be supposed to occupy, or to be seeking to occupy, the main columns subdivide into other smaller columns, and all strike out for themselves routes as direct as possible towards their destined positions in the line, endeavouring, at the same time, to procure cover whilst advancing into first or second line, and always maintaining their connection. But as an attempt to move for any distance in columns so small and numerous as to be in order of battle, or nearly so, would create confusion and delay at every impediment, it is inexpedient to separate farther than into brigades, the divisional artillery still accompanying, if possible, its own divisions. Each column will be preceded by pioneers, to clear the road of obstacles, throw planks across ditches or rivulets, repair bad parts of the track, cut away the steep banks or fords for the passage of cavalry or guns, and, under the direction of staff-officers, shorten the routes by levelling fences and cutting paths.

Clearing of routes.

Defects of too wide and too narrow fronts.

Of the two extremes, of moving the columns too close to, or too far from, each other, the former, though leading to an accumulation and overlapping of troops, and consequent diminution of the proper front, would, until lately, have been less dangerous than an extension, which would give the enemy an opportunity of breaking the front. But the long reach and defensive power of infantry fire have greatly diminished the risk of extension; and, within certain limits of possible concert and mutual support, increased lengthening of columns would now be a greater disadvantage than a too wide front. Avoiding both, an army runs no risk in any country, for an enemy can, at best, only present himself in equally good order. It is only when an army *in lengthened columns* finds itself suddenly in presence of an enemy in line of battle, that the situation is critical; and such a crisis it is for the advanced-guard to prevent. But of the necessity for moving as compactly and as nearly in fighting order as possible, the battle of Solferino is an illustration. Both armies had reconnoitred the country between the Chiese and Mincio; each expected to find its adversary awaiting it behind the river; neither anticipated the encounter; but the French army was by far the best prepared for it by the order of its march. *The army that marches in the best order for form-*

ing battle, according to the nature of the country, will be certainly best prepared for victory.

The closer the nature of the country, the more necessary will it be to render different portions of each column complete in each arm. For the order of march on the intersected bank of the Po, in 1859, the reader is referred to page 30.

Flank marches near the enemy.

So far, *marches to the front* only have been under consideration. But an army, or part of an army, must frequently march to a flank—westward, for instance, with the expectation of forming a line of battle which will front south—as Pirch and Thielemann moved from Namur to Ligny; and if it were to move in the order just prescribed for a march to the front, it must make a long wheel of its columns before forming order of battle. To avoid this it must adopt an order of march suited to the occasion.

On perfectly open ground such a movement might be accomplished by marching to a flank in order of battle—that is, in three columns formed of the two lines and the reserve, with an advanced-guard protecting the flank towards the enemy. But the question is of making a march of this kind in an average broken or enclosed country, where very lengthened columns, especially of cavalry and artillery, could not without great risk offer their flank to the enemy.

Order of march to a flank.

The cavalry, as being least able to fight singly, should not move in columns next the enemy. But the movement should nevertheless be covered by cavalry, extended in observation, with bodies in support at suitable commanding points, both to give information of the enemy's movements, and to prevent the enemy's cavalry from observing the march too closely; these bodies should successively collect their vedettes and patrols as the army passes them, and move forward to fresh points of observation, while the reserve of the cavalry force which performs this duty should also conform to the general movement. If an army-corps were thus moving, the reserve cavalry, or a regiment of divisional cavalry, might be so employed, according to the suitability of that arm to the ground; supported by an advanced-guard of all arms, which should occupy all defiles by which the enemy might issue on the flank of the columns. The three divisions might form each a column, the divisional artillery at the head or in rear of each, or partly at the head, partly in rear, according to the probable exigencies of the expected engage-

ment. The corps artillery might move, with or without the cavalry brigade, in a fourth column; or might accompany the division farthest from the enemy.

When a corps is moving thus to a flank, it will be of immense importance to decide whether it is to form line of battle to a front or a flank, relatively to the rest of the army and to the enemy. Thus Bulow's march to the field of Waterloo was a flank march; but for the attack on the French flank, the order of march to *a front* was the proper formation for his columns.

To an English reader, amid our highly-cultivated and strictly-enclosed landscapes, marches such as those described will appear very dubious of execution. But the more enclosed a country is, the more numerous generally will be its roads. Still, such marches may well appear perplexing in England or Italy. A trip to Belgium or the Rhine will, however, convince him of the feasibility of such manœuvres in countries better suited than ours to military operations; though there are many parts of England where great operations could be executed, and great battles fought, without hindrance to any arm.

CHAPTER VII.

MINOR OPERATIONS OF WAR.

UNDER this head, as necessary accompaniments to the movements of armies, yet possessing distinctive features of their own, are placed the Conduct of Advanced-Guards, Outposts, the Escort of Convoys, and Reconnaissances.

It was the custom of Napoleon to despatch large bodies of light cavalry to the distance of several marches ahead of the army, while it was still at a great distance from the enemy. "And," says Marmont, "when one is far from an enemy strong enough to deliver battle, and is marching upon him, it is necessary to occupy, with advanced-guards and light troops, at least a space of a long march all round the army, to be informed of his movements, and modify our own."

The advanced-guard.

Measures of this kind, however, the object of which is solely to procure intelligence, are not now in question, but the conduct of specially-organised bodies moving immediately at the head of armies, to facilitate the march and to guard against surprise.

Duty of the advanced-guard.

While the advanced-guard must, on the one hand, shun to compromise itself with a superior force; on the other, it must not allow the march to be delayed by demonstrations made by insignificant bodies. The commander, therefore, has need both of prudence and resolution; according to circumstances, he must dispute the ground, fall back towards the army, or promptly attack. "Never *haggle*," says Frederick to his generals, "with the enemy's light troops."

Its composition.

In almost all countries, the advanced-guard should consist of all arms. The proportions of cavalry and infantry must depend on the nature of

the district—the former preponderating in open, the latter in close and hilly, regions. Artillery is required to shell the enemy's posts out of sheltered ground, farms, &c.

Its proportion to the main body.

If an army is moving on a narrow front, one of its brigades or divisions, combined with cavalry and artillery, may form the advanced-guard, extending across the whole front. Forey's division at Casteggio formed, in May 1859, the advanced-guard of the French army. But where corps or divisions are moving each on its own roads, as at Woerth, each will form its own advanced-guard: and these have generally consisted, on the German side, in the war of 1870, of from 2 battalions, 2 or 3 squadrons, and a battery, to a brigade of infantry, with a regiment of cavalry, and 2 or more batteries. The functions of the advanced-guard, which formerly consisted chiefly in observing the enemy, obtaining information, and facilitating and protecting the march, have been of late held to include also the task of engaging and holding fast the enemy, and this part of the column has been strengthened accordingly.

Order of its march.

A small party of horse precedes the main body of the advanced-guard, to obtain and bring the earliest intelligence. Of the main body, a portion of the infantry march first; for neither artillery nor cavalry should enter any defile which has not been first explored, and its flanks secured, by infantry. A road enclosed by strong walls or fences, or a hollow way, or a bridge in a deep valley, or a wood, or the street of a village, would all be situations fatal to horse or to guns attacked by rifle-fire, and unaided by infantry.

When the Allied army made its flank march round Sebastopol, the head of the column, marching through an extensive and thick wood, was composed of several field-batteries. Fortunately, after proceeding some distance through dense and narrow paths, the head of the column halted for guidance and protection. After a certain interval it was ordered to proceed; and it finally emerged into an open space, close to the rear of a strong Russian column which had just traversed its front. But for the halt, the head of the army would have touched, not on the rear, but on the flank, of this column, when a few companies of infantry might with ease and impunity have destroyed great part of the British artillery.

No defile should, then, be entered till its flanks, throughout its extent,

are occupied by infantry, when the other arms should pass with all convenient speed. Mounted riflemen would be specially adapted for the seizing and occupying of defiles.

The artillery may, in general, properly be placed next the leading battalion, or part of a battalion, of the advanced-guard.

The flanks of the column should be covered to a distance of effective rifle-range by parties of horse; and a chain of riflemen, at 40 or 50 paces from each other, should extend within the mounted troops. Every neighbouring obstacle which might shelter hostile troops, every wood, and copse, and farmyard, and rising ground, to a considerable distance on each side, should be visited and explored by the flankers, and detachments must occupy important defiles on the flanks until relieved by others from the main column; all, however, without interruption to the march.

In a halt of any duration, the advanced-guard should place itself in order to fight, by the suitable occupation of ground, and cover its front and flanks with outposts.

Its distance from the main body.

The considerations which govern the distance between the advanced-guard and the main body are these:—If it were considerable (say half a march), not only might it be cut off altogether by a superior force attacking it in flank and rear, but it might frequently be forced to an action while falling back. The army must then support it, and thus a battle might be fought inopportunely or in an unfavourable position, and contrary to the desire of the commander-in-chief.

On the other hand, were it too close to the army, it would merely be the head of the column, and would very inadequately fulfil its main purpose of putting the corps on their guard, and giving them time to prepare for battle.

The distance, then, must be such as to give the columns time to deploy sufficient force to meet any probable first attacks, and to cover the deployment of the rest. If an army be moving in numerous columns, at just intervals, it will need less preparation than when the roads refuse to lend themselves to any but deep columns, and too narrow or too extended fronts. Frederick's advanced-guards observed a distance from the army of from 1½ to 3 miles; larger armies and less compact columns might extend it to 5 miles—nor should this be greatly exceeded, except in the

single case that it was desired to seize on some point or position, the possession of which would be worth the risk.

In case of the whole army being covered by an army-corps (see p. 23 for its force), it may be a day's march ahead, possessing in itself the means of holding the ground till supported.

Outposts. Outposts are established to give an army or detachment notice of the movements of the enemy, and to guard against surprise. Like advanced-guards, they must be placed at the distance from the main body which will fulfil this purpose without exposing them to be cut off or overpowered. And as they occupy much ground in proportion to their force, 3 miles is as great a space as should intervene between them and the army.

Distance of outposts from the main body.

The advanced-guard usually furnishes the outposts, because it is already at a suitable distance ahead of the main body for doing so. When, or before, the army has taken up its destined position for the halt or the bivouac (the chief requisites of which will be, the defensive capacity of the ground and the facility of procuring wood and water), the advanced-guard halts also in its selected position.

Let us suppose that the infantry of this advanced-guard consists of six battalions, (the strength of a Prussian brigade), covering two army-corps in first line, with one in rear of them. Two of these battalions, divided into wings, furnish four bodies of four companies each, which let us assume to be all 100 strong. At 1200 yards apart, these wings will extend just two miles; and they will, as *supports*, take up their position where they command the main avenues of approach, and at points where they can at once easily defend themselves and be sheltered from observation. The skirts of small woods, hollows behind the crests of ridges, a line of wall, or embankment, or hedges, will answer the purpose.

Manner of disposing them.

The supports.

Each of these supports may detach a company in sections of 20 to 25 each, at an average distance of 400 yards to its front. These sections form the line of *pickets*, which may extend 400 yards beyond the flanks of the supports, occupying two miles and a half of front. These shelter themselves in the same way as the larger bodies.

The pickets.

Each picket will furnish three double sentries, of which there will then be 48. At an average distance of 100 yards apart (and such small intervals would only be necessary in very close ground), they would extend 4800 yards. According to the nature of the district, these might be

The sentries.

reduced to a half, or even a third; though, in country so open as this small number would imply, cavalry vedettes would be more appropriate. The sentries might be at an average distance of 400 yards from the pickets.

The officers in charge of guards and pickets must now busy themselves with securing free communications between all parts of these three lines of troops, by making passages through enclosures; roads and defiles in front of the sentries should be temporarily blocked (not destroyed); and all the posts should be strengthened in the readiest way, such as felling timber, loopholing walls, or making breastworks of stacks or trusses. For the business of these posts is not merely to give an alarm, but to dispute the ground, and force the enemy to deploy considerable forces before obliging them to give way.

Cavalry is posted with the supports and pickets according to the nature of the ground—naturally where it is open, and generally on the principal roads. Vedettes may be pushed down the main approaches to a distance of 1000 yards in open ground.

Guns, in divisions of not less than two, may be with the supports, under cover, and at commanding points, generally on or close to the roads.

If an obstacle which would shelter the approach of an enemy is within rifle-range, the line of pickets must be extended so as to include it, or withdrawn to due distance.

The sentries must be visible from the pickets, the pickets from the supports.

The men remaining in the pickets, after providing for three reliefs of sentries, will furnish patrols, which, in thick weather or at night, pass once in each relief, along the whole line; and the supports connect themselves in the same way, parties of cavalry being very suitable for the purpose. The use of these patrols is now greatly developed. Cavalry by day, infantry, or a mixed force, by night, pass at intervals outside the sentries, to whom they may often be superior in obtaining information.

In great woods, like those of America, the outposts must clear spaces with the axe, and shelter themselves on the edge of them with abatis.

Every officer eligible to command a company ought to be instructed how to post his pickets and sentries, and provide for their shelter and defence, in ground of all sorts; and every field-officer should be able, and should be occasionally called on, at once to cover the front of a column

with a line of outposts, and undertake the supervision of the whole of the dispositions.

The remaining battalions, with some divisional cavalry and artillery, take post as a reserve on a suitable position about half a mile in rear of the supports, ready, at the shortest notice, to reinforce a post, or hold their own ground against an attack. Reserve.

The line of outposts need not accurately conform to the line of the position. A picket or sentry thrown forward at a sharp salient would be liable to be cut off. A concave position will be covered by fewer troops if the outposts are on the chord than if they follow its configuration; and this applies also to positions which contain deep re-entering angles or several salients.

Behind such a line as has been described—maintained with due vigilance and intelligence—an army of two or three corps might rest in security. Their proportion to the main body.

If the flanks of the line of sentries were unsupported by obstacles, it would be necessary to place guards—say of a company—a few hundred yards in their rear, which might be furnished from the outer supports.

Armies in actual presence of each other cover the front at a short distance with a line of pickets and sentries.

The escort of a large convoy, except when it is covered by the front of the army, is one of the most difficult enterprises which an officer can be called on to conduct; because, in general, the extent of front to be protected (which is the whole line of road occupied by the convoy) is out of all proportion to the number of the troops; and because, to reach its destination, it must traverse roads which may be occupied or damaged by the enemy. Convoys.

Provisions, ammunition, or other munitions of war, baggage, sick, or prisoners, may form the convoy. The escort should generally be mixed in proportions depending on the nature of the country.

Before setting out, the commander must inspect the animals and vehicles, and form divisions of convenient numbers. He must obtain precise information of the road he is to follow—places of halt and billet—position of the enemy—points where an attack may be looked for—and the places of refuge to be sought in case of retreat.

A waggon with four horses occupies in the file 12 yards, counting

intervals. Where the road admits of it, the vehicles should form double file, with a yard between the files, and leaving room for drawing aside a waggon that may have broken down.

On a good road a waggon journeys about two miles and a half an hour; in a hilly country, a mile and three quarters.

It is prudent to have a number of empty waggons to receive the loads of those that break down; and part of their horses may help the rest. Beasts of burden precede waggons, because the latter break up the roads. Five or six yards' interval must be preserved between the divisions for the passage of the troops from right to left.

Manner of disposing the escort.

The escort is divided into advanced-guard, main body, and rear-guard. With a considerable convoy such as 200 carriages, occupying 2400 yards, where it would be impossible for any but a large force to line the whole extent with troops, the main body might be divided into four parties—one to form a reserve, one for the protection of the centre, one to march at the head, and another at the rear, of the column.

This reserve is to reinforce any point that may be specially threatened, and should be half of the main body; the detachment to protect the centre one-fourth; and for each extremity only an eighth, for the centre will be the most fatal point of attack, and the detachments on the extremities will be aided by the advanced and rear guards.

Each division of the convoy is preceded by a section of infantry, and some soldiers march on the flanks to watch the waggoners, who, being generally peasants impressed for the occasion, would otherwise linger or halt, or attempt to make off with their teams, especially in case of attack.

These different bodies do not quit their own places in the convoy to concentrate on a first alarm, because feints will probably precede or accompany the real attack.

March of the convoy.

The convoy, harnessing by successive divisions, to prevent unnecessary fatigue to the men and horses, sets out secretly in early morning; and, if its safety be of vital importance, the space over which it is to pass should have been traversed just before by a movable column. The advanced-guard must precede it by about two hours, for, it will be delayed by discharging its necessary functions of scouring the road on each side, impressing labourers, if the roads require mending, levying forage for the convoy, and looking out for suitable halting-places.

The convoy must not be committed to a defile before it is occupied by detachments from the reserve; meanwhile the convoy draws together on the largest possible front, and the advanced and rear guards close on it. When the defile is reconnoitred the advanced-guard passes through, and far enough ahead of the defile to allow the convoy to be parked in rear, while the reserve occupies the heights bordering the defile towards the enemy.

When attacked in force, especially by cavalry, the convoy forms square, the horses facing inward, and the angles and faces are defended by infantry. A rehearsal of what is to be done in case of attack might prevent confusion at sight of the enemy.

If the enemy can be checked, the convoy must continue its march, and the attack should be met at some distance from the waggons; if unable to defend the ground, the escort should retreat on woods, farms, or other obstacles, and place the park so that the obstacle and the convoy may flank each other, while the troops extend between them.

In case defence seems hopeless, part of the convoy must be sacrificed to obstruct the enemy. As a last resort, the carriages may be destroyed, the traces cut, and an attempt made to retreat fighting.

When an escort of prisoners is attacked it should remain near them, because the assailants will not risk killing their own people by firing. To prevent escape the prisoners should be ordered to lie down, and not rise without orders, on pain of being shot.

Attack of a convoy.

The attack of a convoy is much easier than the defence. The assailant can choose his time, and make his dispositions accordingly, while the escort is always hampered and uncertain.

Cavalry alone would not succeed in an attack, unless in the form of mounted riflemen—it should be supported by infantry and guns; and the force should be divided into three bodies, the principal to attack the escort, the second to assail the convoy, the third in reserve, besides any further detachments that may be required to make feints.

The point of attack must depend on the nature of the country. In a very close country a convoy attacked at once in flank and in rear might be entirely destroyed.

In very open ground an attack on the centre would entail most difficulties on the defenders; while, in general, the combined attack of the head and flank would be most effective, as cutting off the convoy from its

destination. Obstacles of ground should be employed to effect an ambush, and false attacks on distant points will force the defenders to remain dispersed.

In case of a convoy succeeding in forming a park, the cavalry attacks the escort, and the guns fire on the park, which will always be set on fire or opened by a few shells; but if the assailants have no artillery, and fail to penetrate, they must draw off and await their opportunity when the convoy is again in motion—moving ahead, meanwhile, and breaking up the roads.

Cavalry alone may be employed with advantage against convoys of baggage, animals, or of prisoners.

Reconnaissance of the enemy.

The first step towards a military success is to know where the enemy is, and what he is doing. And this is not always so easy as might be supposed, for the extent of the operations of great armies confuses inquiry, and sometimes a great obstacle draws over the hostile front an impenetrable veil. When, in 1859, the armies fronted each other on the Po, Giulay could devise no better plan for discovering the motions of the enemy than sending a whole *corps d'armée* across the river to make a reconnaissance in force. The great disadvantage of this operation is that, as the troops employed are intended only to unmask the enemy and then make good their retreat, they always retire from an action with the air and reputation of defeat. Thus Forey, with very inferior forces, claims to have beaten Stadion at Casteggio; and it is in vain to explain what passes for a defeat by calling it a reconnaissance. Unfortunately, too, for the Austrians, the information they derived from the costly adventure was delusive; for the vigour of the French defence caused them to believe that the main force lay towards Voghera, and that the great operation would be by the right. Hence they were induced to strengthen their left; whereas the Allies marched round their right flank by Novara.

When armies are near each other, outposts serve the purpose of natural obstacles; and a commander who wants to know what a skilful adversary is doing, must resort to secret or armed reconnaissances. The first kind must depend so entirely on the invention and faculty of enterprise of the conductor of the operation that it would be in vain to lay down any rules for guidance. The second must have for its object to push in the pickets and reach the supports, beyond which it can rarely penetrate without

the risk of bringing on a general action. But the number and position of these will of themselves give a great deal of information about the force and position of the main army.

From commanding ground, or before an enemy who is negligent in covering his front, much may be learnt by a practised general without making an actual attack. Napoleon spent part of the day before Austerlitz at the outposts, while, in his front, the valley of the Goldbach, and the opposite slopes, were covered with cavalry skirmishers, amidst whom rode experienced officers, from whose observations, joined to his own, the Emperor deciphered accurately the movements and designs of the adversary.

In a reconnaissance to observe an enemy on the march, the detachment is hidden, and the officer in charge goes himself to the front to verify the reported approach of the hostile column. He then rejoins his party, and draws it up by the side of the road, where it will at once be concealed and command a view of the enemy. He must be very much on the alert, or it is likely the flankers of the advanced-guard may intercept him; still, a cool and experienced officer will not be imposed on by an appearance of danger which might deceive a novice. He must aim at discovering the number, composition, and direction of the enemy's troops; their order of march; whether they have artillery; and if they appear ready for action. But before finishing his observations he must send off two mounted men with notice that the enemy is approaching, and that he will in a few minutes make a detailed report.

When Wellington, before Badajos, heard that Marmont was approaching Ciudad Rodrigo, just captured from the French, he sent an officer to observe the movement. From a well-concealed point of observation the envoy marked the march of the French; and, entering a town they had just quitted, found they had left the greater part of their scaling-ladders behind. As their siege-train had been captured in Rodrigo, Wellington, who might else have been drawn northward for the defence of his acquisition, had no fears for the safety of the fortress, and remained to prosecute his immediate design.

A reconnaissance on the rear of a beaten enemy ought to discover what roads the principal masses have taken. Few precautions are necessary; celerity is the main requisite, and light cavalry are the proper troops.

All traces left of the enemy are noted, and his main line may generally be known from these alone, as abandoned guns, baggage, arms, and wounded. Such a reconnaissance made on every road after Ligny might have saved Napoleon at Waterloo. By pursuing on a wrong line under a false impression, Wellington failed to gather the proper fruits of the victory of Salamanca.

Reconnaissance of country.

It is necessary to supplement the information given by maps, however good, by an actual deciphering of the country by instructed officers.

When M'Clellan moved up the peninsula from Fort Monroe, he found his maps untrustworthy in important particulars. One of his columns was stopped by unexpected obstacles; and he was forced to await a complete reconnaissance of the district.

It is very useful for a staff officer to consider what observations he may with most advantage *habituate* himself to make, so that, under all conditions of ground, he may recognise the essential features, which will now be briefly enumerated.

ROADS.—Their width; which ought to be 20 feet, for free and convenient passage of troops. The minimum width for an emergency must be determined by the space required for the passage of a gun. For baggage-trains, hills steeper than $\frac{1}{15}$ will be a serious impediment, and those over $\frac{1}{7}$ will be impassable. Guns can, however, surmount steeper slopes up to $\frac{1}{4}$.

Whether they pass over good or bad bottom; whether liable to become impassable in certain weather; whether easily repairable, and if materials for mending them exist near, such as wood fences, stone walls, planks, hurdles, brushwood, straw, furze, or reeds, or, as in the corduroy roads of Canada, small pine-trees.

Contractions of the roads, such as fords, bridges, and defiles; whether practicable for all arms; width, material, and strength of bridges. A bridge strong enough for infantry to pass four-deep will bear cavalry in file, and guns singly.

The foregoing particulars must be necessary for all movements in an imperfectly known district; when, for instance, a combination is to be directed from all quarters on a particular point, as in marching to engage the enemy. It is also essential that distances should be expressed in *time* as well as space. Every staff officer should ascertain, as accurately

as possible, the length of his own average paces and those of his horse, and the time in which each accomplishes a given distance.

If movements are to be made near an enemy, he must also note where the road is commanded; what positions it affords in case the march should be opposed; what roads and paths fall into it, and their direction; where it is bordered by trees, hedges, ditches or marshes; and the nature of the slopes on each side of a bridge or ford, with regard to attack or defence. When other parallel roads are near, the nature of the ground, and communications between them, should be investigated.

FORDS.—Their banks, their bottom, their level at entering and quitting the water. Their position, whether in angles, windings, or straight parts of the stream. The direction of the ford—depth and rapidity of stream —whether the ford is shifting or permanent—command of the banks. Points existing in the neighbourhood of which use may be made to deceive the enemy as to the real point of passage.

A ford should not be deeper than 3 feet for infantry, 4 feet for cavalry, and 2½ for artillery. If the stream be swift these limits must be lessened.

A bottom of large stones is bad for cavalry, impracticable for carriages. Gravel is the best bottom. A sandy ford, though good at first, is apt to deepen when many troops pass. It must be ascertained whether the stream be liable to sudden floods, and if so, under what circumstances; and whether it is affected by tides.

WOODS.—The kind of trees composing them; whether adapted for abatis and entanglements; whether the trees are wide apart, permitting cavalry to penetrate, or thick and difficult to traverse; the number of troops they are calculated to hold. Single trees, or other conspicuous objects, should be noted, and their bearings observed, as they may serve for points of alignment, or to give directions to a column. At Magenta the troops under MacMahon were directed through the close flat country on the tower of Magenta, which was the principal point visible among the trees. The nature and direction of the roads through the wood should be noted; and whether the wood would be an advantage or a hindrance in case of taking position near it.

CANALS.—Whether for navigation, or irrigation, or draining of wet lands; their width, length, and depth; slopes of the banks; locks, how situated, and how to be destroyed or protected.

DEFILES.—Their length, whether their gorges are open or narrow; mode of occupying them to cover a retreat; how to distribute troops both to attack and defend them. Whether they can be *turned* if strongly occupied.

RAILWAYS. — Whether for one or two sets of rails. The lengths of embankments, tunnels, and cuttings should be recorded. Embankments may form a commanding position for artillery if the front be clear, if there be means of easily moving the guns up and down the slopes, and if there be roads and paths intersecting the railway near at hand. In posting guns on a straight line of railway, it must be considered whether the enemy can gain the prolongation of the line, and so enfilade them. Where a railway enters a cutting, points must be secured in advance of it towards the enemy, because, if he establishes himself on the edge of the cutting, he commands the neighbouring portion of the line.

Officers should habituate themselves to consider the capacity of all sorts of railway carriages, and the speediest means of filling and emptying them of troops and horses, not only on the platforms of stations, but on other parts of the line, as Jackson's troops quitted the train on the field of Bull Run. The capacity which a railway station may possess of being rendered defensible must always be considered in the reconnaissance of a district, and junctions will often be of strategical importance, and the surrounding ground must be prepared for defence. The readiest means of destroying railways must also be considered. On this point General Sherman says: "My own experience demonstrates the proper method to be, to march a regiment to the road, stack arms, loosen two rails opposite the right, and two opposite the left of the regiment, then to heave the whole track, rails and ties, over, breaking it all to pieces; then pile the ties in the nature of cribwork, and lay the rails over them; then by means of fence-rails make a bonfire, and when the rails are red hot, let men give the rail a twist, which cannot be straightened without machinery. Also fill up some of the cuts with heavy logs and trunks of trees and branches, and cover up and fill with dirt."

HASTY FIELD-WORKS.—These are of greatly-increased importance, and will certainly be extensively used in the next war, though in most good positions only parts need be thus strengthened.

A shelter-trench for infantry, 4 feet wide, 1 foot 3 inches deep, may be made by a single line of men 5 feet apart, in half an hour.

Gun-pits can be made each by a gun detachment in about an hour.

In pine-woods, in the American war, a line of shelter-trench and abatis was habitually formed in about an hour by troops taking up a position.

Strong enclosed works, such as redoubts, cannot be made in less than 18 hours.

INUNDATIONS.—A defensive army which cannot find rivers to cover its front sometimes resorts to inundations, by damming up otherwise insignificant streamlets or canals of irrigation, in which case it must be considered how these can be converted back to other channels by dams or sluices, and how to cover or destroy a dam or sluice.

An inundation must not be looked on merely as a space of water of a certain depth and extent. It must be considered whether it is owing to canals, as aforesaid, or to a permanently wet soil having springs beneath it, or to the overflowing of a neighbouring stream. In all cases, how it may be traversed should be ascertained, or, if impassable, what are the shortest routes round it.

MOUNTAINS.—In reconnoitring a hilly region, the most commanding points should be first taken, and the ravines which spring thence followed. The watercourses, their volume, rapidity, and direction, should be noted; and of the roads, those which pass along the crests, as generally the most practicable, should receive most attention, those that often cross valleys being less eligible on account of the multiplicity of bridges requiring to be established to secure free access. Defensible positions should be looked for at proper distances for halts and encampments, with wood and water at hand.

SLOPES.—Whether all arms can move up and down them; whether cavalry, after ascending, will be in condition to charge immediately.

FENCES.—In all districts, the nature of the fences in different portions must be considered—whether easily levelled to afford free communication, as rails, and thin quicksets, and palings; whether forming ready defences, such as banks and ditches; whether rendering portions of a line ineligible for the action of certain arms.

It is evident that, in the performance of these duties, the man who is merely a student, however intellectual, will be very inferior to the shrewd and ready observer who has developed in various pursuits his ingenuity and resource. The staff officer may bring diversified knowledge into

effectual play. Some acquaintance with geology may enable him to recognise at once the character of whole tracts of country, discerning whether they are boggy, gravelly, rocky; what sort of roads may be expected in them; what resources they will afford; and whether field-works will be easy or difficult of construction. Without being a learned botanist, he may often recognise the nature of a soil or a ford from the character of the herbage. And he will find a knowledge of the influence of climate upon soil, upon the rise and fall of rivers, and upon crops, and of the signs which indicate storms, rains, mists, heat, or sudden changes, of great value. Staff officers who join acquirements to ability and a spirit of enterprise, are the springs which, directed by sagacious generals, impart order, force, and purpose to the machinery of armies.

CONCLUSION.

THE foregoing pages were designed to present an image of modern war; and if they have not failed of their purpose, the reader will be convinced that military science is not mere pedantry, but a reality of vast importance. For, granting the preceding narratives to be mainly correct, and the inferences drawn from them just, skill in arms is the equivalent of thousands of good troops, and may again succeed, as it has so often succeeded before, in gaining, against odds, victories which fix the fate of nations.

Let us imagine that an army in the field is commanded by a general who has fought his way upward from grade to grade, who is valiant, devoted, and practised in war. He is versed in all routine duties, knows the uses and capabilities of the different arms, can choose and occupy a position, make the dispositions for the march of his columns, stubbornly cover a retreat, and save his army, even after a heavy disaster. But not having a mind capable of comprehensive views, or of deep study, he knows nothing of great combinations. Strategy, in the sense of a flexible science, to be adapted to circumstances, is a sealed book to him: the theatre of war is written in a cipher to which he has not the key; he can deal with the accidents of the country, when they present themselves, as something to be immediately attacked or defended; but they suggest no large problems by the solution of which a few marches decide a campaign. Cautious, from not knowing when he may venture to be bold, and rash from ignorance of what may be attempted against him, he spoils his offensive movements by hesitation, defends himself by makeshifts, and only half understands his own blunders when they have ruined his army. This is no unfair picture of what has often passed muster in the world as a respectable leader to be intrusted with the fate of hosts. It would do

no injustice to some of Napoleon's most celebrated marshals. Such a one will probably acquit himself with credit so long as he is opposed by no qualities superior to his own.*

But let us imagine that a general of a different stamp enters the field: one who has been taught by study and thought, not merely what has been done in war, and how to conform to respectable precedent (though that may be much), but how to meet new circumstances with new combinations. He has mastered the problems of strategy, and can *read* the theatre of war. He knows not only how to draw from a situation all its inherent advantages, but how to produce the situation. Thus, when a great opportunity arrives he is the less likely to lose it, because it is of his own making; he seizes it unhesitatingly, because he has confidence in his own knowledge of the game; and in darkness and difficulty his step is assured, because he is familiar with the ground he moves on.

When such opponents are matched we have the conditions of startling, brilliant, decisive successes in war. And such were the conditions under which Napoleon met his adversaries. On the one side was respectability, relying on revered traditions. Prussian and Austrian generals were not likely to desert prescribed paths in order to strike out independent modes of military action. But Napoleon was not only a man of vast insight, originality, and power, but had been trained amidst influences adverse to all kinds of prescription. The French Revolution was sceptical of military as of political traditions, and asserted in practice the most subversive doctrines. Napoleon, the child and servant, before he became the master, of the Revolution, was the man to combine with the occasion. From the moment when he first assumed command of a Republican army he began to remodel the system of war. His opponents moved their men on the chessboard according to the rules which they took for immutable principles, and the game went on so long as their antagonists were also guided by them; but when an adversary appeared who only awaited the development of their methodical movements to play his own secret, profound, and decisive game, all equality of chances disappeared, and the only variety in the result was in the mode of defeat. In 1796 he concentrated his force against the extended front of the enemy, broke it at Millesimo, and

* Had this character not been sketched before the war of 1866, it might have been taken for a portrait of the unfortunate Austrian commander.

confusion and ruin poured in after him at the gap. At Piacenza he broke out on their line of retreat, and in a moment threw them back beyond the Mincio. Repeatedly, around Mantua, he met and defeated, with the same troops, the desultory dispersed attacks of his adversaries. In that single year, the first in which he commanded an army, he illustrated completely the system of war which deserves to be styled the Napoleonic, since he was, if not its inventor, its greatest exemplar.

In 1800 and 1805 he descended upon the line of retreat of the hostile armies and enclosed them. In 1806 he aimed the same stroke, cut the Prussian armies from the Oder, and threw them on the coast of the North Sea. In 1809 he varied the stroke, for he broke the centre of the enemy's line, and threw back the fragments beyond the capital. And here ended the unbroken flow of his successes; and it ended for two reasons—first, because it was inevitable that his constant adversaries should in time come to catch some of the spirit of his own system, and to meet him with his own weapons. The strokes they dealt against his communications in 1812 and 1813 would probably have been impossible for them ten years before. Beaten into proficiency, the terms they engaged on were no longer so unequal as at first. But, besides that, the Napoleonic system is more successful in single campaigns than in protracted wars. It is wasteful of men; great marches can only be performed, great blows delivered, at a certain cost of material. The immense opportunities for which he laboured existed only for the moment. When he had broken the enemy's front, when he had concentrated superior numbers against them, still, if he neglected to crush them the opportunity would vanish. Hence troops were poured on, effecting with carnage what might have been effected with small loss had time permitted—but time did not permit. The result would be worth a few thousand men let it be won at the price, since for the enemy the cost would be far greater. When armies are equal in numbers, constant losses of five against three, in thousands or tens of thousands, soon decide a campaign. But when this system is pursued for a series of campaigns, against enemies whose resources are double, it must fail in the end. His own losses crush the victor. Lee, like Napoleon, wins campaigns by making skill compensate for numbers; but, like Napoleon, he yields at last to the superior resources of enemies who continue to press him to exhaustion.

Such wars *à outrance,* and such inequality of resource in the combatants, are, however, the exception. And the moral of this book is, not that numbers and wealth must prevail, nor that great generals are heaven-born; it is, on the contrary, that the conditions of success are attainable and capable of demonstration; that the preparation of study and thought is essential to skill in war; and that, being thus prepared, a leader, in order to achieve the most notable successes, need not be gifted with inspiration, but only with the more appreciable, though still rare, combination of sound sense, clear insight, and resolution. It is partly for the sake of pointing this moral that the achievements here recounted have been divested of the glow and ornament with which historians naturally embellish, while they confuse, the record of deeds that form the pride of nations, and that these feats of arms have been dealt with in their logical, not their rhetorical aspect. If, of the many Englishmen who possess the qualities necessary for great soldiers, some few should find that this book has in any degree smoothed the path that leads to honour and achievement, the years passed in studying its subjects, and the many months devoted to its composition, will have been sufficiently fruitful of result.

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